

GREEN BONDS, EMPTY PROMISES*

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We examine the legal terms in the market for green bonds, debt instruments in which proceeds are earmarked, directly or indirectly, for projects with a positive environmental impact. Utilizing a sample of nearly 1000 bonds over the entire history of the market and supplementing this data with interviews with over fifty market participants and policymakers, we find a concerning lack of enforceability of green promises. Moreover, these promises have been getting weaker over time. Green bonds often make vague commitments, exclude failures to live up to those commitments from default events, and disclaim an obligation to perform in other parts of the document. These shortcomings are known to market participants. Yet, demand for these instruments has been growing. We ask why green bond promises are so weak, while the same investors demand strong promises from the same issuers in other settings.

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INTRODUCTION

Efforts to mitigate and adapt to the effects of climate change require vast sums of capital. Estimates of the cost of a global transition to a net-zero economy by 2050 run as high as \$275 trillion in spending on physical assets alone.¹ Many governments will struggle even to fund less ambitious efforts to protect residents from the worst effects of global warming. Climate change impacts the world's poor most heavily, yet low-income and developing countries may lack the fiscal capacity to mount an adequate response.² Climate finance promises to fill the gap.³

1. MCKINSEY & CO., THE NET-ZERO TRANSITION: WHAT IT WOULD COST, WHAT IT COULD BRING 5 (2022), <https://www.mckinsey.com/capabilities/sustainability/our-insights/the-net-zero-transition-what-it-would-cost-what-it-could-bring> [https://perma.cc/ZW76-AGT2]. For other estimates, see, for example, OECD & BLOOMBERG PHILANTHROPIES, GREEN BONDS: MOBILISING THE DEBT CAPITAL MARKETS FOR A LOW-CARBON TRANSITION 2 (2015) [hereinafter OECD, DEBT CAPITAL], [https://www.oecd.org/environment/cc/Green%20bonds%20PP%20\[f3\]%20\[1r\].pdf](https://www.oecd.org/environment/cc/Green%20bonds%20PP%20[f3]%20[1r].pdf) [https://perma.cc/V369-GLU4], estimating \$93 trillion in infrastructure investment over the next fifteen years, and Zamid Aligishiev, Matthieu Bellon & Emanuele Massetti, *Macro-Fiscal Implications of Adaption to Climate Change* 5–9 (IMF, Staff Climate Note No. 2022/002, 2022).

2. PATRICK BOLTON, LEE BUCHHEIT, MITU GULATI, UGO PANIZZA, BEATRICE WEDER DI MAURO & JEROMIN ZETTELMEYER, CTR. FOR ECON. POL'Y RSCH. & INT'L CTR. FOR MONETARY & BANKING STUD., CLIMATE AND DEBT 35 (2022) [hereinafter BOLTON ET AL., CLIMATE AND DEBT].

3. Our project connects to a broader literature examining the promise and risks of taking Environmental, Social, and Governance (“ESG”) concerns into account in investing and managing decisions. For example, studies examine how ESG considerations influence the behavior of corporate managers and investment funds (or related legal issues). See generally Quinn Curtis, Jill Fisch & Adriana Z. Robertson, *Do ESG Mutual Funds Deliver on Their Promises?*, 120 MICH. L. REV. 393 (2021) (examining behavior of ESG-focused mutual funds); Leo E. Strine, Jr., Kirby M. Smith & Reilly S. Steel, *Caremark and ESG, Perfect Together: A Practical Approach to Implementing an Integrated, Efficient, and Effective Caremark and EESG Strategy*, 106 IOWA L. REV. 1885 (2021) (exploring how ESG considerations fit into managers’ fiduciary duties); Max M. Schanzenbach & Robert H. Sitkoff, *Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by a Trustee*, 72

For years, there have been calls for a “transformation” of global bond markets in particular.⁴ The goal is to link borrowers needing to invest in climate adaptation and mitigation to a deep pool of capital representing “latent demand for sustainability-themed investments.”⁵ Many investors, the theory goes, believe they can do well by doing good.⁶ They see sustainable finance as consistent with the goal of maximizing risk-adjusted returns. Perhaps investors even care enough about environmental objectives that they will sacrifice immediate financial returns to achieve them.⁷ What matters to such investors is the credibility of the bond issuer’s commitment to sustainability.⁸ If investors are assured their money will promote climate adaptation and the transition to a green economy, money will flow. Such a transformation of the bond markets, it was said, could make the 2020s “the ‘golden years’ for bond issuance in the low-carbon sectors.”⁹

Judging from the growth in the market for Environmental, Social, and Governance (“ESG”) bonds, these optimistic projections have proven correct. The central instrument in this market is the so-called “green” bond, in which

STAN. L. REV. 381 (2020) (same); Michal Barzuza, Quinn Curtis & David H. Webber, *Shareholder Value(s): Index Fund ESG Activism and the New Millennial Corporate Governance*, 93 S. CAL. L. REV. 1243 (2020) (documenting the role of index funds in promoting ESG objectives). Others examine the wisdom of mandating ESG-related disclosure by securities issuers. See generally Lisa M. Fairfax, *Dynamic Disclosure: An Exposé on the Mythical Divide Between Voluntary and Mandatory ESG Disclosure*, 101 TEX. L. REV. 273 (2022) (noting the value of voluntary disclosure in addition to mandated disclosure); Cynthia A. Williams & Donna M. Nagy, *ESG and Climate Change Blind Spots: Turning the Corner on SEC Disclosure*, 99 TEX. L. REV. 1453 (2021) (noting benefits of ESG disclosures); Amanda M. Rose, *A Response to Calls for SEC-Mandated ESG Disclosure*, 98 WASH. U. L. REV. 1821 (2021) (highlighting the difficulties in mandating ESG disclosures).

4. OECD, DEBT CAPITAL, *supra* note 1, at 1.

5. *Id.*

6. The idea that investors might be able to do well by doing good is not new. See Jan Mischke, Jonathan Woetzel & Michael Birshan, *The Necessity of Doing Well by Doing Good*, MCKINSEY GLOB. INST. (Apr. 12, 2021), <https://www.mckinsey.com/mgi/overview/in-the-news/the-necessity-of-doing-well-by-doing-good> [<https://perma.cc/T54H-88XH>]; Steve Coomber, *Doing Well by Doing Good*, LONDON BUS. SCH.: THINK (Apr. 7, 2014), <https://www.london.edu/think/doing-well-by-doing-good> [<https://perma.cc/Q8D5-CPRU>]. The logic is straightforward, if debatable. “Good” governments and firms—e.g., those that govern transparently and fairly, treat workers well, have genuine commitments to diversity—will outperform dictatorial or oppressive regimes, firms with poor labor practices, etc.

7. See John Caramichael & Andreas Rapp, *The Green Corporate Bond Issuance Premium* 6–8 (Bd. of Governors of the Fed. Rsrv. Sys., Discussion Paper No. 1346, 2022), <https://www.federalreserve.gov/econres/ifdp/files/ifdp1346.pdf> [<https://perma.cc/5M3F-644W>].

8. INT’L INST. FOR ENV’T & DEV. & POTOMAC GRP. LLC, LINKING SOVEREIGN DEBT TO CLIMATE AND NATURE OUTCOMES: A GUIDE FOR DEBT MANAGERS AND ENVIRONMENTAL DECISION MAKERS 30 (2021), <https://www.iied.org/sites/default/files/pdfs/2021-11/20651IIED.pdf> [<https://perma.cc/3C8R-HQMB>] (discussing how “[t]ransparency is of paramount importance to ESG investors” and publishing second-party audits of the issuer’s practices can “enhance the credibility of the instrument in question”).

9. OECD, DEBT CAPITAL, *supra* note 1, at 1.

proceeds are earmarked, directly or indirectly, for projects with a positive environmental impact. About a decade ago, only a few hundred million dollars of such bonds had been issued, often by multilateral development banks.¹⁰ As Figure 1 shows, annual issuance volume is now in the hundreds of billions and growing fast.¹¹ Virtually every type of issuer—sovereigns, corporates, municipalities, and regional development banks—is rushing to tap the market.¹² Predictions for 2022 suggested that global green bond issuance could have reached \$900 billion.¹³ Issuance volumes were less than expected but still amounted to over half a trillion USD.¹⁴ And 2023 is on pace to be a banner year.

From first principles, however, the existence of a large market for green bonds is something of a surprise. Sovereigns, corporates, and other entities already borrow vast sums, often by issuing bonds. And of course, these issuers can use bond proceeds however they wish, including for environmental objectives. Why issue a separate green bond, especially when the issuance is likely to involve higher transaction costs?¹⁵ One answer is that sustainability-minded investors demand both transparency (about the issuer's environmental objectives and activities) and credibility of commitment (that the issuer will in

10. The earliest green bonds were issued around 2007–08 by the European Investment Bank (2007) and the World Bank (2008), in response to demand from Swedish pension funds. *15 Years of EIB Green Bonds: Leading Sustainable Investment from Niche to Mainstream*, EUR. INV. BANK (July 5, 2022), <https://www.eib.org/en/press/all/2022-308-15-years-of-eib-green-bonds-leading-sustainable-investment-from-niche-to-mainstream> [<https://perma.cc/83FZ-37QZ>]; *What You Need To Know About IFC's Green Bonds*, WORLD BANK GRP. (Dec. 8, 2021), <https://www.worldbank.org/en/news/feature/2021/12/08/what-you-need-to-know-about-ifc-s-green-bonds> [<https://perma.cc/AB7X-33PC>].

11. Data sourced by authors from Refinitiv. See REFINITIV, <https://www.refinitiv.com/en> [<https://perma.cc/6RFG-9RZU>] (data on file with the North Carolina Law Review).

12. The steady increase in ESG bond issuances over the past decade has seen something of a downturn in 2022. It remains to be seen whether this downturn is a temporary blip or a sign of market skepticism. James Crombie, *ESG Bond Market Flop Is a Wake-Up Call for Buyers and Sellers*, BLOOMBERG L. (Dec. 9, 2022, 1:09 PM), <https://www.bloomberglaw.com/bloomberglawnews/esg/X34K1R4C000000> [<https://perma.cc/AXF6-8T8H>] (staff-uploaded, dark archive).

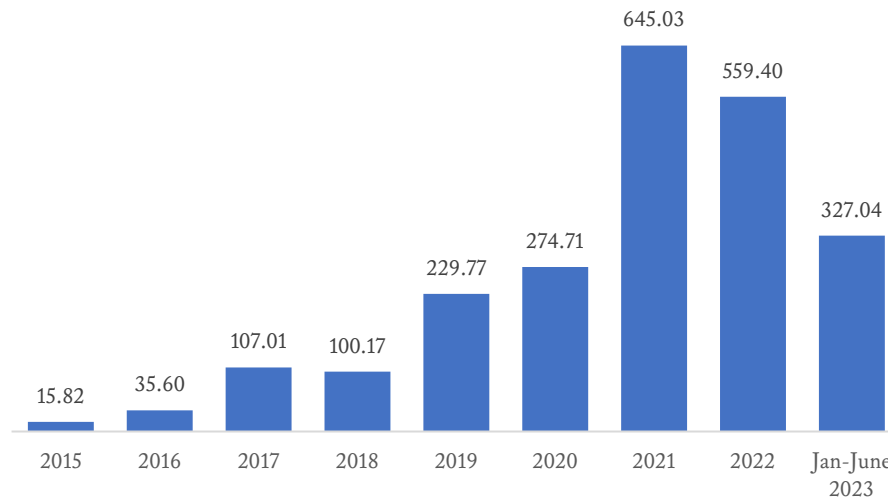
13. James Mackintosh, *ESG Investing Can Do Good or Do Well, but Don't Expect Both*, WALL ST. J., <https://www.wsj.com/articles/esg-investing-can-do-good-or-do-well-but-dont-expect-both-11643033321> [<https://perma.cc/4R4W-ZJNU>] (staff-uploaded, dark archive) (last updated Jan. 24, 2022, 9:08 AM) [hereinafter Mackintosh, *ESG Investing*].

14. Climate Bonds Initiative estimates \$487.1 billion in green bond issuances for 2022, limiting its estimate to bonds aligned with its definition of a green bond. See *Green and Other Labelled Bonds Fought Inflation To Reach USD858.5bn in 2022*, CLIMATE BONDS INITIATIVE (Apr. 20, 2023), <https://www.climatebonds.net/2023/04/green-and-other-labelled-bonds-fought-inflation-reach-usd8585bn-2022> [<https://perma.cc/KC86-MYXZ>]. Our estimates are based on Refinitiv data for 2022, using that service's green bond designation, and reveal over \$532 billion for 2022. See REFINITIV, *supra* note 11.

15. The higher costs might be driven by elevated disclosure requirements, the need to seek a "green" certification from a third party, or costs associated with postissuance monitoring and verification. See, e.g., Raffaele Doronzo, Vittorio Siracusa & Stefano Antonelli, *Green Bonds: The Sovereign Issuers' Perspective*, at 1, 13 (Banca D'Italia: Mkts., Infrastructures, Payment Sys., No. 3, 2021).

fact use funds to those objectives). A regular bond, issued to finance general spending, provides neither of these things. Green bonds may represent the solution.

Figure 1: Annual Green Bond Issuance Volume, in billions USD



If so, green bonds would represent an important innovation, for it is a challenge to design a bond that credibly commits the issuer to pursue objectives that are aligned with investors' values. Consider a few examples. Sustainability-minded investors should value a green bond only if it enables the issuer to achieve sustainability goals that it would otherwise not pursue. But since money is fungible, it can be hard to tell whether this has happened. Perhaps the issuer would have made the investment anyway. There also is a need to ensure that the issuer's use of proceeds aligns with the investor's expectations. Our sustainability-minded investor will no doubt object if the issuer uses the proceeds to build a coal-fired power plant. But what about a facility that manufactures wood pellets?¹⁶ Terms like "green" and "sustainable" do not define themselves.¹⁷ The bond will have to define the permissible uses of bond proceeds, and investors will have to be able to monitor compliance. Finally,

16. See Christine Ro, *The Controversy of Wood Pellets as a Green Energy Source*, BBC NEWS (Jan. 11, 2022), <https://www.bbc.com/news/business-59546278> [<https://perma.cc/Y8ZP-XXH8>].

17. See, e.g., James Mackintosh, *Is Tesla or Exxon More Sustainable? It Depends Whom You Ask*, WALL ST. J. (Sept. 17, 2018, 11:58 AM), <https://www.wsj.com/articles/is-tesla-or-exxon-more-sustainable-it-depends-whom-you-ask-1537199931> [<https://perma.cc/TDH2-L7ZX> (staff-uploaded, dark archive)].

there is the problem of enforcement. An issuer of green bonds, like the issuer of an ordinary bond, must make periodic interest and principal payments. If it remains current on these payments, but fails to use the proceeds as expected, what recourse will investors have?

The existence of a large and rapidly growing market for green bonds might be taken as a sign that these problems have been solved. But there is a darker possibility, one hinted at by frequent accusations of “greenwashing.”¹⁸ Perhaps doing good and doing well are not so aligned after all.¹⁹ Investors may want to believe their money will be invested in pro-social activities. But they also may want high returns and may be ineffective monitors of the investment decisions made on their behalf and the sustainability practices of the entities in which they invest. If so, the market for green bonds may consist largely of bonds that *appear* to be green but that do not represent credible commitments to pursue sustainability objectives. And investment fund managers may have little reason to probe beneath this green veneer.

Given these sharply diverging views, it is surprising that there is relatively little research on the legal structure of green bonds. Our project aims to address that gap. We began it with a degree of skepticism. To be sure, there is evidence that ESG-focused investors may behave differently from non-ESG investors.²⁰ Yet it has also been observed that many bonds labeled “green” include only vague promises with regard to the use of proceeds and no obvious enforcement mechanisms.²¹ Even early proponents of the green bond market noted concerns about whether a bond issuer’s green promises could be enforced.²² Moreover,

18. See Victor Leung, Wilson Wan & Joe Wong, *Greenwashing in the Corporate Green Bond Markets* 1 (H.K. MONETARY AUTH., Research Memorandum No. 08, 2022), <https://www.hkma.gov.hk/media/eng/publication-and-research/research/research-memorandums/2022/RM08-2022.pdf> [<https://perma.cc/75B8-XKQA>]; see also Mary Childs, Wailin Wong, Keith Romer & Sam Yellowhorse Kesler, *Two Indicators: The Fight over ESG Investing*, NPR: PLANET MONEY (Dec. 21, 2022, 5:59 PM), <https://www.npr.org/2022/12/20/1144555936/esg-impact-investing-sustainability-blackrock-larry-fink> [<https://perma.cc/5683-CETV>] (examining the flaws and potential of sustainable investing).

19. See Mackintosh, *ESG Investing*, *supra* note 13 (“The claim that investors will make more money investing in green bonds is patently absurd.”).

20. For example, ESG mutual funds invest and vote their shares differently from non-ESG funds. See Curtis et al., *supra* note 3, at 399.

21. Mark Weidemaier & Mitu Gulati, *(Why) Are ESG Sovereign Bonds (Such) Scams?*, CREDIT SLIPS (July 9, 2021, 10:41 AM), <https://www.creditslips.org/creditslips/2021/07/why-are-esg-sovereign-bonds-such-scams.html> [<https://perma.cc/9J23-79ZG>]; BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 51; Federico Lupo-Pasini, *Sustainable Finance and Sovereign Debt: The Illusion To Govern by Contract*, 25 J. INT’L ECON. L. 680, 692 (2022).

22. See OECD, DEBT CAPITAL, *supra* note 1, at 11 (noting that issuers and investors identified “limited scope for legal enforcement” as a concern). Concerns about enforceability have led others to focus on private governance as a tool for enforcing sustainability commitments. See generally Stephen Kim Park, *Investors as Regulators: Green Bonds and the Governance Challenges of the Sustainable Finance*

the returns on ESG bonds seem to be about the same as those on regular bonds.²³ For investors who care about supporting sustainable investments, this may be wonderful news. They can invest virtuously without suffering a financial cost. But perhaps it is too good to be true. Perhaps green bonds pay essentially the same as regular bonds because their underlying promises are, essentially, the same.

To shed light on these questions, we have constructed a unique, large, and representative dataset of green bonds (at least those marketed in the English language). We examine the legal structure of these bonds to understand what promises issuers make and what mechanisms they establish for monitoring and enforcing compliance. We pair this examination of bond contracts with interviews of market participants—including lawyers who work on green bond deals, officials at the entities that certify green bonds, and others—to understand how they view this market and their role in it.

If sustainability matters to investors, we would expect green bonds to have developed mechanisms to address the monitoring and enforcement concerns noted above. For example, if investors care about how the issuer will use bond proceeds, we would expect bond contracts to include *promises* about how proceeds will be used. And because investors do not simply trust bond issuers to keep other important promises, such as promises to pay principal and interest, we would expect bond contracts to provide assurance that the issuer will in fact pursue green activities. Are there monitoring mechanisms in place such that the issuer will face penalties if it does not meet green benchmarks? Can the investor withdraw its funds if the issuer does not use proceeds as expected? The absence of such provisions is consistent with a cynical view of these markets. Conversely, if investors are wary of greenwashing and view green promises as important, we would expect to see bond contracts impose costs on issuers that fail to keep such promises.

To preview our findings, we find little evidence to justify taking an optimistic view of this market. The good news, to the extent there is good news, is that many green bonds are issued to finance specific projects that are identified to investors in advance. These bonds do not raise particularly acute monitoring or enforcement concerns. Investors know the project in advance and can assess whether it comports with their vision of sustainable investment.

Revolution, 54 STAN. J. INT'L L. 1 (2018) [hereinafter Park, *Investors as Regulators*] (discussing gaps in the governance of the green bond market and proposing a public-private hybrid regulatory framework to fill those gaps).

23. There are numerous claims about the presence or absence of a “greenium” or “green penalty.” At best (or worst) though, this premium or penalty is tiny. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 39–61.

Compliance is easy to monitor; either the issuer pursues the project, or it does not. Such bonds may not need detailed monitoring and enforcement provisions focused on the green aspects of the transaction.

But many other bonds give the issuer discretion about which projects it will pursue. And these bonds are notable for their near-total lack of commitment. Many make no promises of any sort. The issuer may represent that it intends to use the proceeds for sustainable projects, but it does not promise to do so. Even when an issuer promises to use the proceeds for sustainable projects, these are defined so broadly and vaguely that it would be almost impossible for an investor to prove noncompliance. Not that it would matter, for these bonds also lack enforcement mechanisms. That is, even if the issuer has promised that it will use the proceeds in a particular way, and even if an investor can prove noncompliance, the investor will probably have no remedy.

Nor do we see evidence that this is an immature market in which bond contracts have not yet evolved to address problems of monitoring and enforcement.²⁴ We document significant evolution in the legal template for green bonds even in the relatively brief period that this market has been in existence (roughly ten years). But the market has evolved away from, not towards, enforceability. Increasingly, investors receive detailed disclaimers making clear that issuers are not obliged to use proceeds in any particular way and that investors have no enforcement rights if the issuer does not use proceeds as expected. If there has been a “transformation” of the market for green bonds, it appears to have been focused on making sure that issuers, underwriters, and others involved in the issuance of green bonds do not face any risk of legal liability if green investment never happens.

This Article proceeds as follows. Part I gives background on the green bond market and sets expectations as to enforceability. Part II presents the results of our inspection of green bond terms and outlines the findings of our interviews with market participants. Part III presents our understanding of how the green bond market has reached its current state and how the lack of enforceability could be addressed.

I. BACKGROUND AND EXPECTATIONS

A. *Why Are Green Bonds Green? And Why Issue Them?*

There is no universal definition of a “green” bond, but the central characteristic is that the bond purports to raise funds to support

24. See *infra* Section II.C.

environmentally beneficial projects or activities.²⁵ Some green bonds restrict the issuer's use of the proceeds from the sale of the bond; these specific funds must be used for green projects. Others leave the proceeds unrestricted but provide that the issuer will allocate an equivalent amount of money from other sources to green projects. We will largely ignore this distinction.

A more important distinction has to do with the amount of discretion given to the bond issuer in selecting projects. Some bonds raise proceeds to finance a specific project or series of projects disclosed to investors in advance—say, a new, LEED-certified city building.²⁶ These purport to leave the issuer with little discretion in how it uses the proceeds.²⁷ Other bonds leave the issuer significant discretion in selecting projects. A common structure provides that the issuer will invest in one or more Eligible Projects defined in the bond or associated documentation. For example, the offering circular for a green bond issued by Hungary in 2021 explains that the government “intends to use the proceeds to finance or refinance expenditures within Hungary’s central government budget contributing to the transition to a low-carbon, climate-resilient, and environmentally sustainable economy . . . in accordance with the

25. OECD, MOBILISING BOND MARKETS FOR A LOW-CARBON TRANSITION 23 (2017), https://read.oecd-ilibrary.org/environment/mobilising-bond-markets-for-a-low-carbon-transition_9789264272323-en#page1 [<https://perma.cc/2A37-YF5A>]; Sarah E. Light & Christina P. Skinner, *Banks and Climate Governance*, 121 COLUM. L. REV. 1895, 1938 n.207 (2021); Stephen Kim Park, *Green Bonds and Beyond: Debt Financing as a Sustainability Driver*, in THE CAMBRIDGE HANDBOOK OF CORPORATE LAW, CORPORATE GOVERNANCE AND SUSTAINABILITY 596, 601 (Beate Sjäffell & Christopher M. Bruner eds., 2019) [hereinafter Park, *Green Bonds and Beyond*].

26. *E.g.*, Final Official Statement, City of Minneapolis, Minn., General Obligation Bonds Series 2019, at 6 (Nov. 27, 2019), <https://bondlink-cdn.com/656/General-Obligation-Bonds--Green-Bonds--Series-2019-11-27-2019.sKRjVpfUF.pdf> [<https://perma.cc/2XE8-8PFW>] [hereinafter Official Statement, Minneapolis]. In some forms of project finance, an investor's repayment prospects may be tied to revenues generated by the project. If those are insufficient, the investor may or may not have recourse against the bond issuer. But in a typical use of proceeds bond, the bond is backed by the issuer's full faith and credit. The investor is exposed to the credit risk of the issuer, not the credit risk of the project. On some of these distinctions, see, for example, *Green Bonds*, NORTON ROSE FULBRIGHT (Nov. 2018), <https://nortonrosefulbright.com/en/knowledge/publications/2df0ab1d/green-bonds> [perma.cc/Y5GR-893A]. LEED certification is a rating system administered by the U.S. Green Building Council that attempts to measure the degree to which a project achieves environmental and other objectives. See *LEED Rating System*, U.S. GREEN BLDG. COUNCIL, <https://www.usgbc.org/leed> [<https://perma.cc/4AA9-Z55B>].

27. We say “purport to” because the apparent lack of discretion may be illusory. For one thing, since money is fungible, it is always possible that the issuer would have funded the project anyway. In such a case, the issuance of the green bond frees up other resources, which the issuer may deploy however it wishes. Moreover, as noted below, green bonds only restrict the issuer's use of funds when the issuer promises to abide by the restriction. Not all green bonds include such a promise. See *infra* Section II.B.

Green Bond Framework” developed by the country.²⁸ That framework defines eligible expenditures to include in virtually any investment in one of six “Green Sectors.”²⁹

There is little direct public regulation of green bond issuance. Governance is decentralized, consisting mainly of private initiatives that articulate standards and certify bonds (to confirm that the intended use of proceeds is “green”) and “second-party” services that monitor and verify compliance.³⁰ These initiatives are generally voluntary, although they may be promulgated by influential public and private actors. As examples, the European Union is presently developing a voluntary Green Bond Standard, intended as a gold standard for green bond issuance.³¹ The International Capital Markets Association (“ICMA”), a trade association for participants in the capital markets, has promulgated an influential set of Green Bond Principles to guide issuers seeking to issue green bonds.³² Climate Bonds Initiative, another influential private organization, offers an array of services, including a certification system intended to set best practices for selecting projects, managing proceeds, and reporting on progress.³³ Rating agencies such as S&P Global are even beginning to rate how much a transaction will contribute towards the transition to a low-carbon future.³⁴

If issuers realize a direct financial benefit from green bonds, it comes from the “greenium,” the price premium investors reportedly pay for the bond

28. Hung. Gov’t, Offering Circular 3 (Oct. 18, 2021) (describing the public issuance of green Hungarian government bonds).

29. These are renewable energy, energy efficiency, land use and living natural resources, waste and water management, clean transportation, and adaptation. AKK, HUNGARY GREEN BOND FRAMEWORK 4–6 (2020), <https://www.akk.hu/download?path=2f0f8982-980b-42f0-9030-0556da1222c7.pdf> [<https://perma.cc/6B7Z-77YA>].

30. Park, *Green Bonds and Beyond*, *supra* note 25, at 603–04, 605; Lupo-Pasini, *supra* note 21, at 696–97; Park, *Investors as Regulators*, *supra* note 22, at 28–30; Lloyd Freeburn & Ian Ramsay, *Green Bonds: Legal and Policy Issues*, 15 CAP. MKTS. L.J. 418, 429 (2020).

31. *Proposal for a Regulation of the European Parliament and of the Council on European Green Bonds*, at 2, COM (2021) 391 final (June 7, 2021).

32. The International Capital Market Association is trade association for participants in capital markets, including securities issuers, dealers, fund managers, law firms, bankers, and others. *See About ICMA*, INT’L CAP. MKT. ASS’N, <https://www.icmagroup.org/About-ICMA/> [<https://perma.cc/6S2C-7YUL>]. The Green Bond Principles are a “leading global standard in the green bond market.” Park, *Investors as Regulators*, *supra* note 22, at 12.

33. The Climate Bonds Initiative defines itself as “an investor-focused not-for-profit” that “promote[s] investment[s] in projects and assets necessary for a rapid transition to a low-carbon and climate-resilient economy.” *About Us*, CLIMATE BONDS INITIATIVE, <https://www.climatebonds.net/about> [<https://perma.cc/3BAW-F88D>].

34. *Second-Party Opinions*, S&P GLOB. RATINGS, <https://www.spglobal.com/ratings/en/products-benefits/products/second-party-opinions> [<https://perma.cc/B7KC-S4AR>].

relative to an ordinary bond.³⁵ However, while evidence from corporate and municipal bond markets is mixed, there is little evidence of a significant greenium for most issuers.³⁶ The evidence is likewise mixed for sovereign debt markets.³⁷ Some studies do find a greenium, often limited to emerging markets or climate-exposed countries.³⁸ Perhaps the most that can be said is that the greenium, if it exists, is modest. There are many potential explanations for this, but at least one is that green bonds do not represent credible commitments to pursue environmentally beneficial projects.³⁹ That possibility motivates our examination of the legal structure of green bonds.

B. *The Credibility of Green Promises*

A bond issuer's commitment to use funds for green purposes should mean little, unless investors view it as credible. Of course, an issuer can establish credibility in multiple ways. Informal enforcement mechanisms like reputation may lend credibility to promises, at least in some contexts.⁴⁰ Similarly, investors may draw inferences as to credibility from the reputation of intermediaries, such as underwriters or, in the case of green bonds, second-party certifiers.⁴¹ We return to the potential role of reputation in the market for green bonds below.

35. Matt Wirz, *Why Going Green Saves Bond Borrowers Money*, WALL ST. J. (Dec. 17, 2020, 5:30 AM), <https://www.wsj.com/articles/why-going-green-saves-bond-borrowers-money-11608201002> [<https://perma.cc/R76E-T7SR> (staff-uploaded, dark archive)].

36. See, e.g., Elettra Agliardi & Rossella Agliardi, *Corporate Green Bonds: Understanding the Greenium in a Two-Factor Structural Model*, 80 ENV'T & RES. ECON. 257, 261–64 (2021) (summarizing conflicting evidence); Malcolm Baker, Daniel Bergstresser, George Serafeim & Jeffrey Wurgler, *Financing the Response to Climate Change: The Pricing and Ownership of U.S. Green Bonds* 28 (Nat'l Bureau of Econ. Rsch., Working Paper No. 25194, 2018); Caramichael & Rapp, *supra* note 7, at 3 (finding greenium for corporate bonds, but primarily for large, investment-grade issuers). For corporate issuers, issuing a green bond also may positively impact stock prices. Carolina Flammer, *Corporate Green Bonds*, 142 J. FIN. ECON. 499, 500 (2021); Ilia Kuchin, Gennady Baranovskii, Yury Dranev & Alexand Chulok, *Does Green Bonds Placement Create Value for Firms?* 3–4 (Nat'l Rsch. Univ. Higher Sch. of Econ., Working Paper No. BRP 101/STI/2019); Dragon Yongjun Tang & Yupu Zhang, *Do Shareholders Benefit from Green Bonds?*, 61 J. CORP. FIN. 101427, 101427 (2020).

37. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 43–45 (reviewing evidence).

38. See *id.* at 45–51 (finding a small greenium, at most, for sovereign green bonds, with climate-vulnerable countries receiving the largest greenium); Sakai Ando, Chenxu Fu, Francisco Roch & Ursula Wiriadinata, *Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets* 6–8 (IMF, Staff Climate Note No. 2022/004, 2022) (documenting variable greenium for sovereign issuers, with largest realized by emerging market issuers).

39. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 50–51 (reviewing possible explanations).

40. Robert E. Scott, *The Law and Economics of Incomplete Contracts*, 2 ANN. REV. L. & SOC. SCI. 279, 284–86 (2006).

41. See generally Marc Flandreau & Juan H. Flores, *Bonds and Brands: Foundations of Sovereign Debt Markets, 1820–1830*, 69 J. ECON. HIST. 646 (2009) (arguing that underwriters served a branding function in early sovereign debt markets).

For present purposes, what matters is that the bond markets are long past the day when investors relied on reputational sanctions and other informal mechanisms to enforce important commitments. In the modern era, the bond's terms and conditions will include detailed enforcement provisions governing investor remedies in the event of a default.⁴²

These enforcement-related provisions are important because, in their absence, investors' legal remedies may prove inadequate. An issuer's failure to comply with a bond covenant is a breach of contract, which, in principle, entitles investors to a remedy. But even in the case of a payment default, the remedy is not entirely clear.⁴³ In the context of green bonds, the difficulty is especially acute when the issuer remains current on its payment obligations but fails to honor its commitment with regard to the use of proceeds. In such a case, it would likely prove impossible to quantify the harm to an investor, leaving the investor without a damages remedy.⁴⁴ Perhaps the investor could seek equitable relief, such as a court order instructing the issuer to comply with its green promises. But equitable relief is rarely granted under the best of circumstances, and many green bonds are issued by sovereigns, which are virtually (if not completely) immune from such remedies.⁴⁵ Perhaps the most meaningful remedy would be for the investor to accelerate the debt—i.e., demand immediate payment of principal and walk away from the investment. By default, however, investors do not have the right to accelerate in response to a covenant violation.⁴⁶

Most bond contracts alter these background rules by explicitly granting investors the right to accelerate the debt upon the occurrence of one of a series of defined events, including the issuer's failure to comply with important bond covenants. Not every covenant violation will trigger this right. Those that do are listed in the bond's Events of Default provision, along with procedures

42. See Stephen J. Choi, Mitu Gulati & Eric A. Posner, *The Evolution of Contractual Terms in Sovereign Bonds*, 4 J. LEGAL ANALYSIS 131, 138–39 (2012) (discussing enforcement provisions in sovereign bonds).

43. For example, the appropriate damages remedy may be uncertain. See Yehuda Adar, *The Damages Puzzle in Government Bonds*, 17 CAP. MKTS. L.J. 468, 469 (2022).

44. Conceivably the investor could seek restitution, perhaps of any premium paid for the green bond (relative to an ordinary bond that did not include use of proceeds commitments).

45. See, e.g., W. Mark C. Weidemaier & Anna Gelper, *Injunctions in Sovereign Debt Litigation*, 31 YALE J. ON REGUL. 189, 189 (2014).

46. The rule has a long provenance. See Joseph K. Gilligan, Note, *Acceleration Clauses in Notes and Mortgages*, 88 U. PA. L. REV. 94, 94 (1939) (“It is universally accepted that the failure of a mortgagor to meet installments of principal or interest, or to pay taxes, assessments and insurance will not cause the whole debt to mature at once upon default, absent a provision in the bond or mortgage to that effect.”(citations omitted)).

governing how investors can exercise the acceleration right.⁴⁷ If investors care about achieving environmental goals, we would expect them to insist on similar protections for the bond issuer's commitment to pursue those goals.

At minimum, then, we would expect a credible green bond to include (i) an express promise committing the issuer to green practices, such as investing bond proceeds (or equivalent funds) in projects with a positive environmental impact and (ii) a contractual enforcement mechanism. The first of these requirements may seem obvious. How can a bond be "green" if the issuer does not actually promise to do green things? As noted, however, some green bonds include a representation about the issuer's *intended* use of proceeds but no covenant requiring the issuer to act on this intent. Consider the following language from the prospectus for a green sovereign bond issued in 2020 by Mexico: "Mexico intends to expend an amount of budgetary resources equal to the proceeds from the sale of the notes to fund budgetary programs that qualify as eligible expenditures under the SDG Sovereign Bond Framework [which sets out the country's sustainable development goals]."⁴⁸

In the unlikely event that an issuer falsely represented its intent to invest in sustainable projects, it could incur liability for the misrepresentation. But the issuer of such a bond remains free to change its mind; changing plans does not falsify the prior statement of intent. If the issuer does not use the proceeds in the expected way, investors have no claim for breach of contract. Below, we investigate how widespread this practice is across the market for green bonds.⁴⁹ Here, we note only that such weak commitments are hard to square with the view that investors take climate finance seriously. After all, they are not content with representations that the issuer *intends* to pay them or *intends* to maintain the relative ranking of their bonds.⁵⁰

Bonds might include a range of enforcement mechanisms to give teeth to a covenant regarding the issuer's use of proceeds. As noted, the standard mechanism—used for payment obligations and other important commitments—is to let investors declare a default and accelerate the bond. This remedy would be especially appropriate when investors view the issuer's green

47. Choi et al., *supra* note 42, at 140.

48. United Mexican States, Prospectus Supplement (Form 424B2), at S-13 (Sept. 15, 2020) (noting that 1.35% Global Notes due 2027).

49. See *infra* Section II.B.

50. United Mexican States, Registration Statement (Form S-B), at 7 (July 17, 2018) ("Interest on registered debt securities *will be paid* . . ." (emphasis added)); *id.* at 15 ("[Mexico] *will not* create or permit to exist any security interest on its present or future revenues or assets . . . unless the debt securities are given an equivalent security interest." (emphasis added)).

promises as a necessary part of the investment.⁵¹ But a range of enforcement mechanisms might be suitable. For instance, the interest rate on the bond could increase if the issuer fails to comply with its green commitments.⁵² Sustainability-linked bonds (“SLBs”) are an example of such a mechanism. Rather than restricting its use of proceeds, the issuer of an SLB identifies environmental targets, such as reductions to greenhouse gas emissions, and agrees to pay a higher interest rate if it does not hit these targets.⁵³ A similar enforcement mechanism could be designed for other types of green bonds, with an interest rate increase if the issuer fails to honor with green commitments.⁵⁴ These are just possibilities. The broader point is that, in a credible green bond, we would expect to see mechanisms that increase the cost of noncompliance.⁵⁵

It is worth emphasizing the modesty of our expectations. A bond can include an express green covenant backed by an enforcement mechanism without necessarily leading to new or meaningful investments in projects with positive environmental impact. Perhaps the issuer of a green bond has already committed to the project and would otherwise have financed it by issuing regular bonds with equivalent financial terms. Or perhaps the issuer will use proceeds for projects—such as clean coal—that many would not view as “green.”⁵⁶ Below, we ask whether green bonds in today’s market fulfill even our modest expectations. They do not.

51. BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 57 (“Were the investors to take the position that they would not have lent money to the sovereign absent the green commitment, then it would be logical to treat a breach of that undertaking by the issuer as an event of default entitling the bondholders to accelerate the bond and demand immediate repayment.”).

52. *Id.*

53. See Juan Giráldez & Stephanie Fontana, *Sustainability Linked Bonds: The Next Frontier in Sovereign Financing*, 17 CAP. MKTS. L.J. 8, 8–10 (2022); Sanne Wass, *Sustainability-Linked Bonds in ‘Rapid Growth’ as More Firms Tap ESG Debt Market*, S&P GLOB. MKT. INTEL. (June 23, 2021), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/sustainability-linked-bonds-in-rapid-growth-as-more-firms-tap-esg-debt-market-65049789> [<https://perma.cc/CXE5-YNR5>].

54. BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 57. As a practical matter, especially for sovereign issuers, it may be impossible to set interest rates high enough to provide strong assurances of compliance. See Gong Chen, Torsten Ehlers & Frank Packer, *Sovereigns and Sustainable Bonds: Challenges and New Options*, BIS Q. REV., Sept. 2022, at 47, 54 (referring to sovereign SLBs, noting that interest rate step-ups cannot be large enough to ensure compliance, but suggesting higher penalties might nevertheless have an important signaling effect to investors).

55. Lupo-Pasini, *supra* note 21, at 693.

56. Until relatively recently, for instance, China included clean coal projects among those eligible for financing with green bonds. See *China Excludes Clean Coal Projects from List Eligible for Green Bonds*, REUTERS (May 29, 2020, 12:07 AM), <https://www.reuters.com/article/us-china-environment-finance-idUSKBN2350FW> [<https://perma.cc/R4VF-LJGW>].

II. THE STATE OF THE MARKET FOR GREEN BONDS

To better understand the market for green bonds, we turn to two sources of data. First, we construct a representative dataset of green bonds, assess the credibility of the green commitments in these bonds, and look for changes in drafting practices over time. Second, to supplement our review of bond documents, we draw on a set of fifty-two interviews with expert industry participants, including lawyers who work on green bond issuances, officials at second-party firms that certify bonds as green and report on compliance, and investors in green bonds. We disclosed our basic findings from the examination of bond documents and asked each participant about the patterns we observed, about their views on the credibility of green bond issuances, and about the growth and potential of the green bond market.⁵⁷

A. *Description of the Data*

The bonds comprising our dataset were sourced from the Perfect Information database, a capital markets research tool that includes an archive of filings related to debt issuance by corporations and other borrowers.⁵⁸ Within the category of “corporate actions,” there is a subcategory of “sustainable finance” debt issuances. The data for this project consisted of bonds within that subcategory, which includes green, social impact, blue, sustainability-linked, and transition bonds. For each year between 2012 (roughly when ESG bonds started getting popular) and 2022, we aimed to collect a maximum of 100 randomly chosen bonds distributed roughly between municipal, corporate, and sovereign issuances. In fact, the number of issuances varied substantially from year to year, reflecting the relatively low volume of issuances in some years (especially early in the period).

We have more information about some bonds than others. Legal terms relevant to a bond issuance are found in multiple documents, not all of which are distributed or readily available, even to investors. A prospectus, offering circular, or other sales document distributed to prospective investors before issuance typically describes or reprints key legal terms and explains risks associated with the investment. We base most of our coding on these prospectuses. In some cases, however, we have only a relatively concise final term or pricing sheet. These documents have basic information about the issuance, including a use-of-proceeds section, so we could tell whether the issuer made an ESG-related representation (i.e., that it *intended* to use proceeds for

57. We describe these questions in more detail *infra* Section II.D.

58. *Debt Expert*, PERFECT INFO., <https://info.perfectinfo.com/debt-expert/> [<https://perma.cc/4LW4-VVZH>].

ESG purposes), a promise (i.e., that it *would* use proceeds for those purposes), or neither. But they do not fully describe legal terms or include cautionary language informing investors of legal risks inherent in the bond, including the risk of being unable to enforce the issuer’s green commitments. This means that our data is likely to overstate the extent to which issuers make firm ESG-related commitments, especially in the group of bonds for which we lack the full prospectus (about 22.4% of the total sample). Table 1 provides basic descriptive information about the sample, grouping bonds by issuer type and year. Note that we include only bonds written in or translated into English.

Table 1: ESG Bond Issues Coded by Issuer Type, 2012–2022

Type	Number Coded
Corporate	285
Municipal*	214
Public benefit corporation	5
Sovereign	32
Sovereign agency	12
State or state agency**	231
Sovereign-owned corporation	23
Supra-national	150
Total	952

* includes U.S. and non-U.S. cities and agencies (e.g., transit authorities)

** includes U.S. states and non-U.S. sub-sovereign governmental units (e.g., provinces)

B. *Green Bonds Lack Commitment, Enforcement Rights, or Both*

We begin by asking whether the bonds in our sample include commitments to use bond proceeds or equivalent funds for green projects. The contracts underlying a bond issuance typically include a number of express covenants, often listed in a separate section of the contract.⁵⁹ The issuer also may incur obligations through the use of promissory language (e.g., “the issuer

59. See, e.g., Indenture Dated July 25, 2012, ¶ 9, Hamilton Rsrv. Bank Ltd. v. Democratic Socialist Republic of Sri Lanka, No. 22CV5199 (S.D.N.Y. Mar. 24, 2023) (containing express covenants in indenture for vanilla (non-green) sovereign bond between Sri Lanka and HSBC Bank).

will . . .”), even when the obligation is not listed among the express covenants.⁶⁰ We include as making a commitment any bond that uses promissory language to indicate that the issuer will devote funds to green activities, even if the bond also includes language that might be taken to undermine this commitment. This means that we likely overstate the frequency with which issuers of green bonds purport to tie their hands with regard to the use of proceeds.

Table 2 reports the proportion of bonds, by issuer type, that include a representation about the issuer’s intended use of proceeds or promissory language indicating that the issuer will use proceeds on ESG-related projects and activities.⁶¹ When a bond includes promissory language, we also treat it as including a representation about the issuer’s intent, since a promisor necessarily implies that they intend to keep the promise.⁶² As expected for bonds marketed as green, virtually all include a representation that the issuer intends to use proceeds to fund projects or activities with a positive environmental impact.⁶³

We find language of commitment in nearly two-thirds of the bonds in our sample. That is, the documents underlying the bond issuance include at least some promissory language indicating that bond proceeds, or other funds, will be used for green purposes. This is the first and last of the good news. Note that we pass no judgment on whether the issuer’s specific commitment warrants a green designation. A bond issued solely to retire an outstanding bond, which had been issued to finance an airport expansion?⁶⁴ If this is enough to persuade a ratings agency to designate the bond as green, and for the issuer to market it that way, it is enough for us. (The expansion was LEED-certified).⁶⁵ A number of the bonds involve such refinancings.⁶⁶ Even if the earlier investment’s green

60. *Id.* ¶ 3.1 (providing that the bonds “will at all times rank *pari passu* among themselves in all respects, without any preference of one over the other by reason of priority of date of issue or otherwise, and will at all times rank at least equally with all other present and future unsecured and unsubordinated External Indebtedness”).

61. The vast majority of bonds in our dataset are green bonds (rather than bonds targeting “social” or “governance” related objectives). The dataset does include a handful of “social” bonds.

62. See RESTATEMENT (SECOND) OF TORTS § 530 (AM. L. INST. 1977). The rule has been criticized, among other grounds, for overlooking the fact that many promises include probabilistic information about the likelihood of performance. See IAN AYRES & GREGORY KLASS, *INSINCERE PROMISES: THE LAW OF MISREPRESENTED INTENT* 20–45 (2005).

63. In a handful of cases, the bond documentation is too incomplete to determine whether the issuer made such a representation, and they are excluded from Table 2.

64. Official Statement, City of Portland, Me., General Airport Refunding Revenue Bonds Series 2019, at 3 (Nov. 19, 2019), <https://file.perfectinfo.com/document/64811300/7/64811300.pdf> [<https://perma.cc/LLK8-N5HP> (dark archive)].

65. *Id.*

66. See, e.g., Official Statement, The Tr. for Cultural Res. of the City of N.Y., Refunding Revenue Bonds, Series 2021, at 12 (Dec. 16, 2020), <https://tcnyc.org/sites/default/files/files/WhitneyOfficial%20Statement.pdf> [<https://perma.cc/3WHF-X2G5>] (noting use of proceeds to refinance existing bond issued to construct LEED Gold-certified museum expansion).

credentials are indisputable, these do not necessarily lead to investments in new green activities.⁶⁷

Table 2: Green Representations and Promises, by Issuer Type

	Number of issuances	Proportion with ESG representation	Proportion with ESG promise
Corporate	279	96.1%	70.6%
Municipal	213	99.5%	60.1%
Public benefit corporation	5	100.0%	80.0%
Sovereign	30	100.0%	40.0%
Sovereign agency	11	81.8%	63.6%
State	231	100.0%	40.3%
State-owned corporation	23	95.7%	78.3%
Supra-national	149	99.3%	96.6%
	941	98.3%	64.10%

In any event, the fact that a bond uses promissory language does not mean that it represents a firm commitment, much less an enforceable one.⁶⁸ Our coding scheme is over-inclusive, including every bond with promissory language even if other language suggests that the issuer promises nothing at all. Consider two examples. First, it is sometimes impossible to tell whether the issuer promises to fund green activities or merely represents that it has done so in the past: “An amount equal to or in excess of the net proceeds of this offering will be *or have been* [sic] used for construction and development of wind and solar electric generating facilities, or Eligible Green Projects.”⁶⁹ Second, promissory language in one place often is undercut by qualifying language

67. Any such impact would have to be indirect, in the sense that the refinancing (presumably at lower rates) would free up fiscal space, which the issuer might (or might not) elect to use to pursue green objectives.

68. Even where it exists, promissory language appears outside the terms and conditions of the notes, most often in a separate section governing use of proceeds. We find no instance in which a bond issuer expressly covenants to use proceeds for green activities.

69. Interstate Power & Light Co., Prospectus Supplement (Form 424B5), at S-6 (Sept. 19, 2018) (\$500,000,000 4.1% Senior Debentures due 2028) (emphasis added).

elsewhere, producing something close to gibberish. For example, green bonds issued by one financial institution provide, in one section, that:

The net proceeds from the issue of the Notes will be allocated to finance and/or refinance, in whole or in part, loans to customers involved in as well as the Bank's own operational activities in Eligible Green Projects (as defined below) that promote a green and low-carbon economy, develop a more inclusive, harmonised society and provide clear environmental sustainability and climate change benefits in accordance with certain prescribed eligibility criteria as described under the Green Bond Framework (see the section headed "*Green Bond Framework*").⁷⁰

There is promissory language here, but what does it promise? The issuer will make or refinance "loans to customers involved in" green projects.⁷¹ But a customer "involved" in green projects might also need a loan, say, to build a coal-fired power plant. And this language seems to allow the issuer to use bond proceeds for such a loan. Perhaps the investor will take comfort in the issuer's Green Bond Framework, also referenced in the Offering Circular. The framework provides that the "net proceeds of the issuance of any green bonds will be allocated to Green Eligible Categories."⁷² Alas, what to make of the following, in the bond's Risk Factors section?

None of the Issuer, the Bank, or the Joint Lead Managers makes any representation as to . . . (i) whether the Notes will meet investor criteria and expectations regarding environmental impact and sustainability performance for any investors, (ii) **whether the net proceeds will be used to finance and/or refinance Eligible Green Projects** (as further described in the sections entitled "*Use of Proceeds*" and "*Green Bond Framework*"), or (iii) the characteristics of Eligible Green Projects, including their relevant environmental and sustainability criteria.⁷³

Despite such contradictions, we treat bonds like these as including promises regarding the issuer's use of proceeds simply because there is *some* promissory language that might limit the issuer's discretion.

Even ignoring these instances of contradictory language, there are other reasons for skepticism. Some issuers do not promise to fund green projects but instead promise to use best efforts to do so. For example, bonds issued by *Crédit Agricole* entities promise to make "best efforts to lend an amount at least equal

70. China Constr. Bank Corp., Offering Circular 31 (Dec. 13, 2021) (U.S. \$500 million Floating Rate Senior Green Notes due 2024) (H.K.) [hereinafter China Constr., Offering Circular].

71. *Id.* at 2.

72. *Id.* at 34.

73. *Id.* at 29 (emphasis added).

to the net proceeds . . . to a Green Portfolio” but add the caveat that, if the issuer is unable to do this, “such net proceeds shall be used as described in the Base Prospectus.”⁷⁴ The Base Prospectus calls for proceeds to be used for general corporate purposes.⁷⁵ We understand why a bank would want to include such a caveat. It cannot wish into existence as many prospective borrowers with worthy green projects as it has funds to support. Still, given the caveat, this green bond begins to look much like a vanilla bond with no restrictions on the use of proceeds.

In other cases, the issuer designates the bond as green, without obtaining any independent certification, and even though it intends to use bond proceeds for its ordinary business purposes.⁷⁶ In such cases, the issuer effectively deems itself to be green, leaving investors to decide whether they agree with the characterization. In other cases, an issuer that is generally engaged in pro-social activities, such as a municipal housing authority, may disclaim the obligation to engage in practices or achieve green objectives—such as LEED certification—that might be of particular value to environmentally conscious investors.⁷⁷

Most importantly, even when the bond includes promissory language regarding the use of proceeds, the promise is effectively unenforceable.⁷⁸ In a standard use-of-proceeds green bond, the issuer will promise to invest in projects meeting certain eligibility criteria. However, these criteria typically cover a vast range of vaguely defined activities. As an example, one typical sovereign green bond indicates that the issuer will limit its use of proceeds to Eligible Green Projects, defined in the country’s green financing framework.⁷⁹ The framework provides more detail but still leaves investors mostly in the

74. Credit Agricole Corp. & Inv., Pricing Supplement (Form 424B2), at 7–8 (Nov. 19, 2014) (Bank Green Notes due Nov. 2019). The issuers do not specify what makes a borrower eligible for inclusion in the Green Portfolio, other than to say that such borrowers “benefit from the best ESG ratings and analysis” according to proprietary metrics. *Id.* at 8.

75. See Credit Agricole, Base Prospectus (Form 424B5), at 1199 (June 25, 2014) (Structured Euro Medium Term Note Programme).

76. See, e.g., PWE Holdings PLC, Listing Particulars 1–4 (Dec. 13, 2017) (Up to £30,000,000 Senior Secured 6.5% Green Clean-Tech Investment Bonds due Dec. 31, 2020).

77. Official Statement, N.Y.C. Hous. Dev. Corp. Sustainable Dev. Bonds, at 6 (Dec. 6, 2019), https://www.nychdc.com/sites/default/files/2020-11/NYNYCHousing07a_FIN.pdf [<https://perma.cc/4VE9-JHPN>] (“Certain of the Developments expected to be financed with Sustainable Development Bonds have applied for and are expected to receive Leadership in Energy and Environmental Design (“LEED”) certification There is no assurance that the EGC or LEED certification will be obtained nor is the Corporation responsible for determining if a Development has met or continues to meet the criteria for either such certification.”).

78. BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 53.

79. The Arab Republic of Egypt, Prospectus, at 39 (Oct. 2, 2020) (U.S \$750,000,000 5.250% Green Bonds due 2025) (Egypt) [hereinafter Egypt, Prospectus].

dark.⁸⁰ It limits expenditures to various categories defined with reference to ICMA’s Green Bond Principles (e.g., energy efficiency), each encompassing an almost limitless range of potential investments (e.g., “[p]rojects leading to increase in energy efficiency of buildings”).⁸¹ The consequence of such broad and vague definitions is that disappointed investors will not be able to identify a specific promise breached by the issuer, nor will they be able to prove the harm that resulted from the breach.⁸²

Ultimately, even if an investor identifies a breached promise—say, the issuer has failed to invest in any projects that could credibly pass as green—there will probably be no recourse. Not one bond in our sample expressly makes it an event of default for the issuer to fail to live up to its green promises. In consequence, the investor has no right to accelerate the debt and walk away from the investment.

C. *Evolution Away From, Not Towards, Enforceability*

Compared to a decade ago, the issuer of a green bond in today’s markets faces an even lower risk of liability. Increasingly, bond documents explicitly warn of the absence of legal rights and remedies if the issuer fails to use proceeds as expected or otherwise honor its green commitments. We focus on green bonds issued by sovereigns (including their state-owned entities) and corporations. The trends we observe are most pronounced for these issuers.⁸³ That is not surprising, as these exclusions would make less sense for other issuers in our sample. For example, municipal and other sub-sovereign governmental issuers in the United States tend to issue green bonds to finance specific projects, which are either identified to investors in advance (e.g., a municipal building) or inherent in the nature of the issuer’s activity (e.g., municipal water and sewer bonds issued to finance infrastructure

80. *Id.* at A-3 to A-4.

81. *Id.* at A-4.

82. BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 53.

83. We find virtually no disclaimers in the bonds of supra-national issuers, such as regional development banks, although many of these entities are insulated from legal enforcement—for example, under the International Organizations Immunities Act in the United States. International Organizations and Immunities Act, ch. 652, 59 Stat. 669 (1945) (codified at 22 U.S.C. § 288) (providing that international organizations designated by the statute or the U.S. President “*shall enjoy the same immunity from suit and every form of judicial process as is enjoyed by foreign governments*” (emphasis added)).

improvements).⁸⁴ Disclaimers of the sort we describe below would make little sense for such bonds.⁸⁵

As Table 2 showed, a large minority (35.9%) of green bonds in our sample contain no green commitments of any sort.⁸⁶ The remaining bonds include at least some language of commitment. As explained above, this language is typically too broad and vague to give investors meaningful rights.⁸⁷ Still, if the issuer of such a bond does not keep its green promises, its legal risk is probably not zero. Consider two potential sources of risk. First, no bond in our sample expressly includes breach of green commitments as an Event of Default letting investors accelerate.⁸⁸ But some do have catchall Events of Default that might pose risks for the issuer. For instance, some allow acceleration if the issuer fails to perform “any of its material obligations.”⁸⁹ A disappointed investor might argue that the issuer’s failure to keep green commitments triggered this Event of Default. Although we think this risk is modest, a conservative issuer might want to eliminate it. The bond can do so by expressly providing that breach of green commitments is *not* an Event of Default.⁹⁰ A second risk stems from the fact that, even when investors cannot accelerate, they are in principle entitled to a remedy for breach. As noted above, investors probably cannot point to a specific promise that was breached or prove the amount of their loss, so this right is of little practical value.⁹¹ Still, the issuer can reduce or eliminate the risk

84. See, e.g., Official Statement, Minneapolis, *supra* note 26, at 2 (new public service center); Official Statement, City of El Dorado, Ark., \$9,915,000 Water and Sewer Refunding Revenue Bonds, at 1 (Dec. 3, 2019), <https://file.perfectinfo.com/document/64854269/7/64854269.pdf> [<https://perma.cc/V532-9E3S> (dark archive)] (issued to refund bonds previously issued to finance improvements to water and sewer system).

85. A municipal water and sewer authority established with limited powers cannot disclaim the obligation to use funds for purposes related to the water and sewer system.

86. See *supra* Tbl. 2.

87. See *supra* Section II.B.

88. See *supra* Section II.B.

89. See, e.g., The Republic of Poland, Prospectus, at 28 (Mar. 11, 2019) (€60,000,000,000 Medium Term Note Programme) (Pol.).

90. Here is a typical example of such a disclaimer:

While it is the intention of the Issuer and the Guarantor to apply the proceeds of the Notes in the manner described in this Prospectus and the Issuer and the Guarantor may agree at the time of issue of Notes to certain reporting and use of proceeds (including in the case of certain divestments described under “*Green Bond Framework*”), it would not be an event of default under the Notes if the Issuer and the Guarantor were to fail to comply with such obligations.

Prologis Int’l Funding II S.A., Drawdown Prospectus, at 10 (Nov. 12, 2018) (Issue of EUR 300,000,000 2.375 per cent. Green Bonds due 2030) (Lux.).

91. See *supra* Section II.B.

by expressly denying that it has any duty to pursue green objectives or that failure to do so will constitute a breach.⁹²

Risk-reducing language of this sort is common, typically appearing in the Risk Factors section of the bond documents. Table 3 shows the proportion of bonds with green promissory language that have (1) language asserting that the failure to pursue green objectives will not be an Event of Default (an “EOD Disclaimer”) and (2) language disclaiming any duty to pursue such objectives (a “Duty/Breach Disclaimer”). The proportion of bonds with green promissory language declines over time, indicating a gradual decline in the (already weak) level of commitment in the green bond market. Accompanying this trend, the proportion of bonds with disclaimers increases. Both types of disclaimers appear by 2014 and are in relatively frequent use by 2017, when the first sovereign green bond in our sample appears. Indeed, green bonds issued by sovereigns in the last couple of years show almost no commitment at all.

Table 3 reports the proportion of *all* bonds with disclaimers, whether or not the bond includes a promise purporting to commit the issuer to green activities. But the disclaimers serve different functions depending on whether or not the bond includes a promise. When there is no promise, the disclaimers serve a belt-and-suspenders function. Given the lack of a promise, investors cannot reasonably expect the issuer to pursue green objectives. The disclaimers make this doubly clear. Overall, focusing on bonds without promissory language, 55% also have EOD Disclaimers, and 32.5% include Duty/Breach Disclaimers.

92. Here is an example, which also includes language denying that it will be an Event of Default to fail to use proceeds as anticipated:

No assurance can be provided that disbursements for projects with any specific characteristics will be made by the Company with the proceeds from the Senior Notes. Neither the terms of the Senior Notes nor the Indenture (as defined below) require the Company to use the proceeds as described under the caption “Use of Proceeds” and any failure by the Company to comply with the anticipated use of proceeds will not constitute a breach of or an event of default under the Senior Notes or the Indenture.

Sw. Elec. Power Co., Prospectus Supplement (Form 424B2), at S-3 (Nov. 1, 2021) (3.25% Senior Notes Series O, due 2051) [hereinafter Sw. Elec., Prospectus Supplement].

Table 3. Proportion of Bonds with Risk-Reducing Disclaimers

Year of Issuance	N	Has Promissory Language	Has EOD Disclaimer	Has Duty/Breach Disclaimer
Issued by Corporations (not SOEs)				
2013	8	75.0%	0.0%	0.0%
2014	38	100.0%	2.6%	2.6%
2015	23	47.8%	17.4%	0.0%
2016	19	73.7%	5.3%	0.0%
2017	17	88.2%	23.5%	5.9%
2018	74	70.3%	43.2%	13.5%
2019	21	57.1%	76.2%	47.6%
2020	3	66.7%	33.3%	66.7%
2021	64	65.6%	59.4%	28.1%
2022	12	41.7%	50.0%	41.7%
	279	70.6%	36.9%	16.8%
Issued by Sovereigns				
2017	1	100%	0%	0%
2018	1	100%	100%	100%
2019	5	80%	40%	20%
2020	6	50%	33.3%	16.7%
2021	11	27.3%	81.8%	63.6%
2022	6	0%	100%	100%
	30	40%	66.7%	53.3%

Issued by State-Owned Entities

2013	1	100%	0%	0%
2014	1	100%	0%	0%
2017	2	100%	0%	0%
2018	7	57.1%	42.9%	0%
2021	12	83.3%	66.7%	50.0%
	23	78.3%	47.8%	26.1%

For bonds *with* promissory language, the disclaimers are puzzling. A Duty/Breach disclaimer makes nonsense of the promise. We have already given one example, where a disclaimer denying that the issuer “makes any representation as to . . . whether the net proceeds will be used to finance and/or refinance Eligible Green Projects” seems to negate promissory language elsewhere in the contract.⁹³ Here is another:

- **Promissory language:** “The net proceeds from the sale of the Euro-denominated Notes will become part of the Foreign Exchange Stabilization Fund established and managed under the Korean Foreign Exchange Transactions Act, and will be allocated toward the financing and/or refinancing, in whole or in part, of projects that fall under the Eligible Green Asset Categories”⁹⁴
- **Disclaimer:** “[A]lthough the Republic has agreed to certain reporting and use of proceeds obligations in connection with certain criteria, the Republic’s failure to comply with such obligations does not constitute a breach or an event of default under the Euro-denominated Notes.”⁹⁵

Overall, 13.2% of bonds with promissory language also include Duty/Breach Disclaimers. It may be that the drafters of these contracts have not yet gotten around to removing the promissory language and replacing it with a simple representation about the issuer’s intended use of proceeds.

A larger proportion (33.8%) of bonds with promissory language incorporate an EOD Disclaimer. Here, it is possible, at least in principle, to

93. See China Constr., Offering Circular, *supra* note 70, at 29.

94. The Republic of Korea, Prospectus Supplement, at S-5 (Oct. 6, 2021) (€700,000,000 Zero Coupon Green Notes Due 2026) (S. Kor.).

95. *Id.* at S-6.

square the existence of promissory language with the disclaimer. The promise is a commitment that the issuer will invest in green activities. The disclaimer makes clear that, if the issuer breaks the promise, the investor cannot accelerate the loan. Instead, the investor will have to seek another remedy, such as damages for breach. As we have explained, no other remedy is likely to be available.⁹⁶ The result is a promise made free from the risk of legal enforcement.

Figure 2. Over Time, Green Bond Issuers Make Fewer Promises, Add Disclaimers

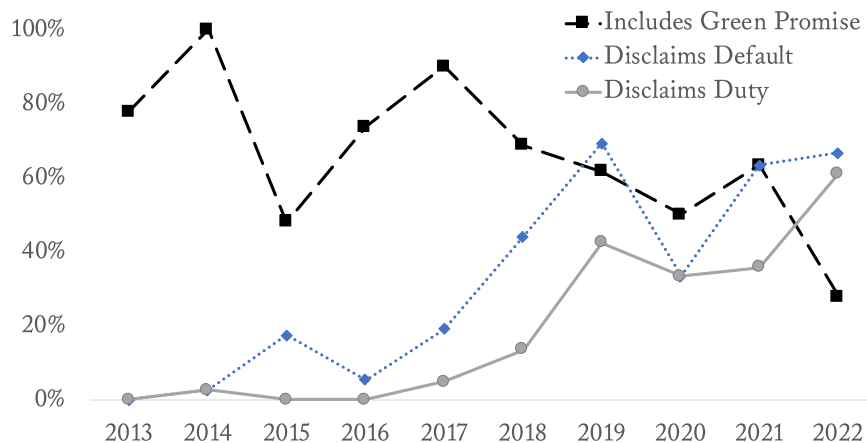


Figure 2 depicts these trends, combining sovereign, corporate, and state-owned entity issuers into one group. What emerges is a clear trend away from enforceability. The proportion of bonds that include promissory language drops over time, while the proportion with disclaimers increases. In fact, the story is worse than it appears from the perspective of legal enforcement. In our review of bond documents, we identified a wide range of disclaimers in addition to those noted above. These include provisions disclaiming any representation that the bond will accomplish investors' ESG objectives,⁹⁷ exculpating

96. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 53; Egypt, Prospectus, *supra* note 79, at 39, A-3 to A-4.

97. See, e.g., Sw. Elec., Prospectus Supplement, *supra* note 92, at S-3 ("There is currently no clearly defined definition (legal, regulatory or otherwise) of, nor market consensus as to what constitutes, a 'green,' 'social,' 'sustainable' or equivalently labeled project . . . No assurance or representation is given as to the suitability or reliability for any purpose of any second party opinion that may be made available in connection with the issuance of the Senior Notes and, in particular, with respect to whether any Eligible Projects (as defined below) fulfill any environmental, social, sustainability or other criteria.").

intermediaries from potential liability,⁹⁸ and expressly excluding the issuer's Green Bond Framework and the opinions of second-party certifiers as sources of contractual rights.⁹⁹ The broader question, then, is how to explain the near-total absence of legal enforcement in this market.

D. *How Market Participants Explain These Patterns*

Once we completed data collection on the legal promises in green bonds, we turned to a set of industry experts to ask their reactions. We conducted fifty-two interviews with senior market participants, including lawyers, investors, ratings agency analysts, investment analysts, and officials at key institutions, such as the World Bank, the International Monetary Fund, the European Central Bank, and various nongovernmental organizations. Two of us specialize in sovereign debt, and the initial interviews resulted from reaching out to contacts in that field. Many respondents referred us to other contacts, including those focusing on nonsovereign issuers. In total, we made requests to about sixty experts. Interviews generally lasted between thirty minutes to an hour, and almost all were on Zoom.

As per the conditions of our Human Subjects Research exemption, we held these conversations on a “not for attribution basis” and asked respondents about their general views rather than specifics regarding their business or transactions. After describing our results, we asked respondents for their reactions to our findings. As a threshold matter, we wanted to know whether we were missing something in our perception that bond contracts were largely bereft of legal muscle in the event the issuer did not honor green commitments. We asked follow-up questions but mostly allowed respondents to talk in free

98. Official Statement, State of Conn., Gen. Obligation Bonds 2022 Series B, at I-4 (Dec. 15, 2021), <https://file.perfectinfo.com/document/300769388/7/300769388.pdf> [<https://perma.cc/Q472-WZK3> (dark archive)] (“No party, including the State or the Underwriters, assumes any obligation to ensure that the Series B Bonds comply with any legal or other standards or principles that may be related to ‘Social Bonds.’”).

99. See Republic of Serbia, Offering Memorandum: Global Medium Term Note Programme, at 44 (Sept. 14, 2021) (Serb.) (“The Green Bond Framework and the SPO, and any of the above reports, verification assessments or contents of any of the above websites, are not incorporated in, and do not form part of, this Base Prospectus, and none of them is a recommendation to buy, sell or hold any Notes.”); The PNC Fin. Servs. Grp., Inc., Prospectus Supplement (Form 8-K/A), at S-13 (Oct. 29, 2019), <https://file.perfectinfo.com/sec/0001193125-19-278851/173487022/0001193125-19-278851.pdf> [<https://perma.cc/9SAX-785V> (dark archive)] (Senior Notes due Nov. 1, 2024) (“For the avoidance of doubt, no such opinion or certification is, nor shall it be deemed to be, incorporated into this prospectus supplement or the accompanying prospectus.”); cf. Paul Rose, *Certifying the ‘Climate’ in Climate Bonds*, 14 CAP. MKTS. L.J. 59, 77 (2019) [hereinafter Rose, *Certifying the ‘Climate’*] (discussing the need for greater liability on certifiers as a way of improving the credibility of green bonds).

form and took notes. Below, we summarize key themes that emerged from the interviews.

1. Initial Reactions to Findings

No respondent expressed surprise or skepticism regarding our core finding that the environmental commitments in green bonds are nonexistent or unenforceable. The lawyers who actually draft and read the contracts and risk disclosure sections of green bonds were well aware of this fact. But other respondents also knew or suspected that the green claims in these bonds were not backed up by enforceable promises. Our findings did not surprise them for two reasons. First, investors did not pay enough for green promises to justify bond issuers in taking on additional risk of legal liability. Second, the market seemed to be thriving and growing without the need for stronger protections. A senior asset manager said:

The evolution [towards fewer and weaker legal promises that you document] is not surprising. Over the period [you examine], demand for these products has only increased [There is] no pressure to provide stronger legal promises Issuers can afford to weaken their promises . . . [and there will be] lots of demand still.¹⁰⁰

Another respondent, from an institution working on establishing ESG bond frameworks, put the matter somewhat differently:

There is no issuer . . . not one . . . of an ESG bond willing to bear the risk of legal liability [for failure to fulfill promises]. They would rather not issue than bear such risk. The premium the issuer would have to receive for issuing the bond would have to be much bigger . . . and investors would have to take less in yield Right now, this is just feel-good . . . PR stuff. I hate to sound so cynical. But this market exists because there are a bunch of funds who have to say they are investing in ESG. [It is n]ot clear how much they are investigating. Analysts don't read this stuff [They] just look at [the] label [There is n]o pressure to make credible promises. Maybe things will change Not sure.¹⁰¹

We followed up such comments by asking why, in the absence of legal enforcement, anyone would buy bonds with a green label. Why not just buy a regular bond of the same issuer? The answer was that, in recent years, big investment funds have been instructed by the market either to offer dedicated green funds, ESG funds, or funds with a portion of the assets in ESG-labeled

100. Anonymous Interview, No. 28 (Nov. 15, 2022).

101. Anonymous Interview, No. 10 (Sept. 5, 2022).

investments. For some time, demand for such investments has outstripped supply, so that green bonds are in demand even when there is already a comparable vanilla bond by the same issuer available.

It bears emphasis that no respondent came out and said that the lack of enforcement mechanisms in the bonds meant that they were eyewash. If anything, respondents thought that most issuers intended to do what they promised and that most investors would not buy the securities if it were obvious that greenwashing was in play. It was just that the market did not impose legal costs on issuers who failed to comply (although they might comply for other reasons), nor was there much incentive for investors to monitor what issuers were actually doing. In the view of most of our respondents, the green part of the bond markets was entirely driven by reputation.

We asked why this would be. After all, investors did not seem to believe other promises made by these same issuers, including promises to repay principal and interest. If one believes legal incentives are an important way to lend credibility to the promise to pay, why believe legal incentives do not matter in the context of environment-related pledges?

The answer was that, at least in today's market, with expanding interest in green investment, issuers would comply to retain access to the large new pool of investors who were eager to buy green bonds. To renege on environmental or other ESG commitments would kill the goose that, at least for now, was laying golden eggs. A rating agency respondent said:

No one knows how big this market could be. It is growing every year . . . exponentially. If you are discovered to be greenwashing, you are going to be cut out of the market. No issuer is willing to risk that . . . [There is n]o real monitoring right now. But no big issuer is willing to risk the reputational sanction. This doesn't mean that there isn't failure to fulfill . . . We've already seen that [in multiple cases in the press] . . . But that was not because the issuers did not wish to comply. They could not for other reasons . . . [such as] because of a crisis.¹⁰²

2. A Demand-Driven Market

A number of respondents emphasized, without prompting, that the green bond market segment was a creation of the demand side. The supply side was only now catching up. It was important to understand this dynamic, because the market for green bonds likely had not found its equilibrium. Respondents emphasized that we needed to keep this fact in mind in understanding the

102. Anonymous Interview, No. 22 (Oct. 20, 2022).

greenium, the lack of scrutiny of legal terms, and the viability of ideas to improve the credibility of green promises.

Right from the start of the green bond market, respondents explained, the impetus for ESG instruments had come from investors. Initially, a set of Scandinavian funds had urged the World Bank to issue green bonds as a way to establish a market template. For a number of years, then, green-labeled bonds were mostly the product of official institutions, such as the World Bank, the European Investment Bank, and the Asian Development Bank. Subsequently, some highly rated European sovereigns, as well as municipal issuers from the United States, entered the fray.¹⁰³ Given the creditworthiness of these initial issuers, we suspect, little attention was paid to the legal terms associated with green promises.

The dramatic expansion of the market, which included an influx of non-investment-grade issuers for whom legal enforcement is more relevant, began around 2019 and 2020, coinciding with COVID-19.¹⁰⁴ However, as of mid-2022, with the rise of interest rates, the tightening of credit, the Russia-Ukraine war, and a backlash against ESG financing from some quarters, the market has tightened.¹⁰⁵

3. The Greenium: Myth, Reality or Someplace Between?

Whether there is a pricing premium for green bonds has sparked a great deal of interest.¹⁰⁶ One reason for the interest is the frequent claim that bond issuers can get a better price by issuing ESG (especially green) bonds.¹⁰⁷ Yet, there also are claims that investors do just as well, if not better, purchasing ESG-labeled instruments.¹⁰⁸ As noted, the empirical literature does not yield a clear result, except that the pricing premium, if it exists, is small.¹⁰⁹

Given the conflicting claims in the public discourse, and the unclear results of academic studies, we expected respondents to have conflicting views about

103. See *From Evolution to Revolution, 10 Years of Green Bonds*, WORLD BANK (Nov. 27, 2018), <https://www.worldbank.org/en/news/feature/2018/11/27/from-evolution-to-revolution-10-years-of-green-bonds> [https://perma.cc/Z9SQ-MCT9].

104. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 58 (reporting data).

105. We report the story told by our respondents. It does roughly map on to the public data, however. See *id.* at 25.

106. See *supra* notes 35–38. Academics also have examined whether there is a premium or penalty for less or more ethical investments (sometimes referred to as “sin stocks”). See generally Ugo Panizza & Mitu Gulati, *The Hausmann-Gorky Effect*, 166 J. BUS. ETHICS 175 (2020) (summarizing the prior literature on this topic).

107. See Wirz, *supra* note 35.

108. See Lupin Rahman, Jeremy Rosten, Pierre Monroy & Shuo Huang, *Does ESG Matter for Sovereign Debt Investing?*, 32 J. FIXED INCOME 51, 60 (2021).

109. See BOLTON ET AL., CLIMATE AND DEBT, *supra* note 2, at 100.

the greenium. They did not. Without exception, their views were squarely in the category of “this is not an important aspect of this market.” Most respondents thought that, despite claims that particular ESG bonds had issued at a premium, these were idiosyncratic cases driven by temporary liquidity effects. Multiple respondents asserted that the prospect of earning a greenium was not driving bond issuance.

One issuer’s counsel described the justifications:

This is about liquidity. If you can get a larger investor base by putting a label on your bond . . . you will do that. It costs more [L]awyers prepare disclosure [You have to prepare] frameworks . . . [and pay for] second party verification But, in exchange for additional liquidity, issuers will do these things. Then, if there is better pricing, great. But that’s not how the bankers sell this.¹¹⁰

Another respondent, from the investment side, explained:

None of these issuers is producing new green . . . [or] blue projects . . . to tap funds. Dynamics don’t work that way. These are projects that these issuers already have on the books. The big funds . . . like Vanguard, Blackrock, and State Street want this green labeled stuff in their portfolio for ESG funds. But no one is generating new projects just because Blackrock wants it. They look to see if they have projects . . . that they can use [to justify a green bond issuance]. Right now . . . [it is an] exercise in monetizing existing projects.¹¹¹

4. SLBs, KPIs, and Other New Creatures

Green or ESG finance conferences often feature discussion of a new type of product, often referred to as SLBs (Sustainability-Linked Bonds) or KPI (Key Performance Indicators) bonds. These are state-contingent bonds where the issuer’s payment obligation is a function of whether it hits certain environmental or other targets. The bonds typically provide for a step up, or step down, in the interest rate.¹¹² For example, a bond might have a modest step up (increase) in interest if the issuer does not hit pre-specified targets for reducing greenhouse gas emissions. Or it might step down (reduce) payments to investors if the issuer does meet pre-specified targets.

110. Anonymous Interview, No. 31 (Nov. 18, 2022).

111. Anonymous Interview, No. 39 (Oct. 31, 2022).

112. For the basics on what sustainability-linked bonds are and how they operate, see *Sustainability-Linked Bond Step-Ups Need Refinement*, SUSTAINABLE FITCH (Sept. 22, 2022), <https://www.sustainablefitch.com/fund-asset-managers/sustainable-fitch-sustainability-linked-bond-step-ups-need-refinement-22-09-2022> [<https://perma.cc/HU5A-7CKC>].

An Official Sector respondent, an SLB enthusiast, explained:

Neither the issuer nor the investors want the debtor to go into full . . . default because of failure to comply with some promise to reduce carbon emissions [The m]arket is exploring ways to put in accountability without having all the dominos fall For there to be an Event of Default [or a] Cross Default . . . would undermine the entire market.

A solution that is being tried is the SLB where there is interest rate adjustment if targets are not met. If . . . [there is] credible monitoring . . . this could work Use-of-proceeds bonds will become a smaller category over time.¹¹³

Most market respondents, however, did not share the enthusiasm for SLBs and KPI bonds expressed by respondents from the Official Sector. Their skepticism took two forms. The first was a function of the rationale for the SLBs and KPI bonds. We had assumed (consistent with the quote just above) that these state-contingent bonds were a market solution to the weak promises in green bonds, a credibility-enhancing enforcement mechanism that did not depend on investors' willingness to declare a default and to litigate. However, we heard, investors were not bothered by the weak promises in use-of-proceeds bonds. Instead, SLBs and KPI bonds had emerged because issuers were simply running out of eligible projects. As a result, issuers could no longer credibly say that they would devote proceeds to green-themed projects and activities. So, rather than purporting to restrict how bond proceeds would be used, issuers tied bond payments to green targets. And, so long as the targets were easily met (or, in some cases, already met), the issuer could offer new green bonds without incurring risk. We heard from multiple respondents that the market was not enthusiastic about these bond structures.¹¹⁴

Second, multiple respondents pointed out that the interest rate step ups and step downs generally were too small to plausibly impact incentives.¹¹⁵ Plus, some of these bonds gave the issuer significant leeway in terms of evaluating whether targets had in fact been met. Others had call features that let the issuer call the bond if it worried it was going to trigger the step up. SLBs and KPI

113. Anonymous Interview, No. 11 (Aug. 30, 2022).

114. The reasons for this lack of initial enthusiasm have been well reported in an article in Bloomberg. See Priscila A. Rocha, Akshat Rathi & Todd Gillespie, *Empty ESG Pledges Ensure Bonds Benefit Companies, Not the Planet (1)*, BLOOMBERG L. (Oct. 4, 2022, 10:05 AM), [https://www.bloomberglaw.com/bloomberglawnews/esg/X2\]OBB6G000000](https://www.bloomberglaw.com/bloomberglawnews/esg/X2]OBB6G000000) [<https://perma.cc/9FFE-G633> (staff-uploaded, dark archive)].

115. Anonymous Interview, No. 11 (Aug. 30, 2022); see also Rocha et al., *supra* note 114.

bonds may be good in theory, we heard, but they were not the future of the green bond market. Use-of-proceeds bonds would continue to dominate.

As noted, most respondents expected the green bond market to keep growing. There was too much investor demand, they explained. But the precise direction was not clear. A couple of respondents sounded a note of caution. The big expansion of the green market had come at a time of easy money and historically low interest rates. Now that rates were higher and credit was tighter, the market might change. The 2022 numbers in terms of green bond issuances, as of the dates of many of our interviews, were looking a lot weaker than they were in the prior year.¹¹⁶

5. Regulation

No respondent thought the current system was anywhere near optimal; all recognized the near-total lack of legal enforceability. The status quo might have worked when the projects underlying use-of-proceeds bonds were developed by credible issuers, such as the Netherlands, France, or Germany, that had independent reasons for pursuing the project. But multiple respondents said that the market would develop and grow only if green-labeled bonds allowed issuers to pursue environmentally beneficial goals that they otherwise could not achieve. And, despite many ongoing reform efforts, it remains unclear whether this desirable scenario is getting any closer to reality.

However, change of some sort may be in the offing. Respondents were clear that the regulatory initiatives already underway in the European Union and United States would change the market, albeit not necessarily in positive ways. Respondents expected regulation to impose additional disclosure requirements. Capturing the broad sense we got from respondents, one person from an industry lobbying group involved in discussions with EU regulators explained:

There is a push on the regulatory side, both EU and U.S., to enhance the disclosures [Right now, it is n]ot clear . . . what is meant by terms such as “green” [It is a] recipe for mischief. On the EU side, there was talk of enhancing the promises underlying the green labels. But we have argued against that. It is dead. No one can afford [the] liability.

But there will be more disclosure required in both the U.S. and EU. [In the] EU . . . there is a push for regulation because there have been a number of greenwashing scandals. Regulation will make these bonds more expensive though I don’t think SLBs will help either. They

116. Indeed, green bond issuance came in much lower than predictions for 2022. *See supra* Introduction.

are not so popular—too complicated. Policy folks like them, just like they liked contingent debt Market wants simple products. Use-of-proceeds bonds are clean, simple.¹¹⁷

* * *

The results of our interviews were largely consistent with our empirical inspection of bond documents: interviewees were not surprised about the lack of enforceability or the evolution of the market. Interviewees perceived these features as a result of demand for green instruments that largely outpaced supply in recent years.

III. ANALYSIS AND POTENTIAL SOLUTIONS

To summarize, so far. Green bonds frequently lack enforceable terms aimed at ensuring that issuers will comply with the green aspects of the instruments. The trend in the market has been toward a reduction in enforceability, rather than tightening terms to close loopholes. General contract law seems ill-equipped to provide a backstop to more specific bond terms. The overall conclusion is that green bond investors have, in many cases, little legal recourse should issuers fail to comply with green promises.

This state of affairs presents a puzzle. The purchasers of green bonds are sophisticated investors capable of ensuring that bond terms suit their interests. It is not plausible that these investors are overlooking the lack of legal protection—and that is what our interviews show. The green bond market exists because investors have an appetite for the instruments. Given that green bonds are a demand-driven phenomenon, it is also implausible that green bond investors are indifferent to the “greenness” of the bonds they purchase. The issuers of green bonds issue conventional bonds as well, and to the extent there is a difference in the financial terms of the two instruments, it is the conventional bonds that may carry a higher return. Why do sophisticated investors purchase green bonds unless they give some weight to the green promises? But how can those promises be taken seriously when in most instances the bonds eschew any accountability?

In this part, we analyze the incentives that we believe currently drive the lack of enforceability in the green bond market, and then turn to potential solutions that might improve legal protections for investors seeking green exposure.

117. Anonymous Interview, No. 10 (Sept. 5, 2022).

A. *Unpersuasive Resolutions of the Puzzle*

In this section, we consider and reject several explanations for the tension between the popularity of green bonds and the nonenforceability of green terms.

1. The Financial Appeal of Green Bonds

As a preliminary matter, the appeal of green bonds cannot be explained in purely financial terms. This is an important point, because ESG equity investors often frame strategies in terms of the long-term benefits of companies pursuing enlightened environmental and social strategies.¹¹⁸ For example, ESG equity investors argue that companies with aggressive emissions goals (even when the goals are not legally enforceable) will be insulated against future regulatory interventions or will benefit from stronger consumer and employee affinity, resulting in better returns.¹¹⁹ But these types of concerns are irrelevant to bond investors. The value of debt instruments depends on the ability of the issuer to repay on the terms provided and the specifics of those terms. ESG commitments matter only to the extent they affect the likelihood of insolvency, and long-term commitments to achieve net-zero or diversify the workforce seem highly unlikely to have such an effect. But even if we think that strong ESG firms will be less likely to experience serious crises that imperil their ability to repay debt, that stability is a property of the firm and not the particular instrument. That is, investors could obtain the firm-level benefits of strong ESG commitments by investing in the conventional bonds of firms with good ESG records rather than favoring green bonds in particular.

Nor does it appear that green bonds are a pure financial play on their own terms. There is a debate in the finance literature over the existence of a “greenium” associated with green bonds.¹²⁰ That is, green bonds are thought, under some circumstances, to be priced at a modest premium to conventional bonds. The existence of a greenium is disputed, but for our purposes we need

118. Martin Lipton, *DOL Proposes New Rules Regulating ESG Investments*, HARV. L. SCH. F. ON CORP. GOV. (July 7, 2020), <https://corpgov.law.harvard.edu/2020/07/07/dol-proposes-new-rules-regulating-esg-investments/> [<https://perma.cc/7Y8W-3XS5>] (“Numerous sophisticated investors have indicated that their ESG investments, social benefits notwithstanding, are fundamentally driven by expected financial returns, including considerations regarding long-term value, opportunity and risk . . .”).

119. See Rick Lord, Steven Bullock & Murray Birt, *Understanding Climate Risk at the Asset Level: The Interplay of Transition and Physical Risks*, S&P GLOB., <https://www.spglobal.com/en/research-insights/featured/understanding-climate-risk-at-the-asset-level-the-interplay-of-transition-and-physical-risks> [<https://perma.cc/53E7-LVKH>].

120. See, e.g., Malcolm Baker, Daniel Bergstresser, George Serafim & Jeffrey Wurgler, *The Pricing and Ownership of U.S. Green Bonds*, 14 ANN. REV. FIN. ECON. 415, 415–20 (2022).

not settle the dispute. The critical point is that the greenium is an issuance premium. That is, the greenium (if present) allows the *issuer* to raise more money given the terms of the bond, corresponding to *lower* returns for the investor. From the investor point of view, the greenium debate is about whether or not green bonds yield worse financial returns, not better.

Since green bonds and conventional bonds from the same issuer expose borrowers to the same risk of default, the attraction of green bonds turns on the characteristics of the particular issuance. From an investor's point of view, the returns on green bonds are—if anything—worse than the returns on conventional bonds. Of course, investors might be willing to sacrifice returns in order to contribute to environmental welfare, but if that is the motivation, that would heighten—not alleviate—concerns about the credibility of green promises.

2. Reputational Enforcement

A second possibility is that investors discount concerns about legal enforceability of green promises because they rely on credible, extralegal means of enforcement. Reputational sanctions are understood to sometimes play a role in bond markets, so this possibility is not too farfetched.¹²¹ Indeed, multiple interviewees mentioned the reputational risk of greenwashing as a factor in motivating firms to avoid greenwashing.¹²² They posited that both issuers and investors had reputational skin in the game. As one respondent from an investment management firm put it, “No fund manager wants to be on the front page of Bloomberg because they held the wrong company.”¹²³ More generally, if green bond issuers are repeat players, then perhaps reputational sanctions provide sufficient incentives for them to hew to their green commitments.

This account is unpersuasive for several reasons. First, while reputational sanctions make sense in environments where formal sanctions are unavailable, there are few such obstacles in the green bonds space. Many issuers already promise to issue reports or meet certain goals as part of their green bond framework, and attaching legal consequences to these promises in the bond document would be straightforward. Instead, issuers frequently go out of their

121. For example, reputation has long been assumed to be a crucial element in ensuring that sovereign debtors repay, since litigation against defaulting sovereigns is famously difficult. The empirical evidence on the effectiveness of reputational sanctions, however, does not support the weight attached to it in the theoretical work. For discussions, see Anna Gelpern & Ugo Panizza, *Enough Potential Repudiation: Economic and Legal Aspects of Sovereign Debt in the Pandemic Era*, 14 ANN. REV. ECON. 545, 548–49 (2022); Patrick Bolton, Ugo Panizza & Mitu Gulati, *Sovereign Debt Puzzles*, 15 ANN. REV. FIN. ECON. 239, 240–41 (2023).

122. See *supra* Section II.D.1.

123. Anonymous Interview, No. 44 (Jan. 30, 2023).

way to explicitly disclaim legal consequences that might otherwise attach to their green commitments.¹²⁴ Simply by omitting the disclaimers, these issuers might increase their credibility. We do not think that the availability of reputational sanctions explains why firms would proactively opt out of conventional contractual liability.

Second, reputational sanctions are most credible when the consequences of exclusion from the relevant market are severe. Several respondents asserted that, given steadily-increasing demand for ESG-themed investments, issuers would not risk greenwashing for fear of compromising future access to this important subset of investors.¹²⁵ But if the risk underlying this concern is real—that is, if the issuance of a green bond allows the issuer to tap a much broader investor base—then one would expect this to show up in green bond prices. But, because the greenium is so small, it is hard to see how the potential loss of the greenium—even were a firm to be cut off entirely from the green bond market—would provide sufficient incentives to deliver on environmental commitments under financial pressure.

3. Securities Law

Third, perhaps green bond investors rely on securities law as a fallback, standing ready to use Section 11 or 10b-5 to vindicate green promises should issuers fail to deliver.¹²⁶ A small number of our respondents did raise the risk of securities fraud claims as a mechanism for keeping green promisors honest.¹²⁷ If there is no intent to fulfill the green promise in the first place, then investors could, in theory, seek rescission under the U.S. federal securities laws.¹²⁸ But showing a lack of intention to comply from day one would be near impossible.

Further, even if there was the prospect of bringing a securities claim, the most obvious issue with this explanation is that it is unclear why investors would disclaim simpler and more concrete enforcement mechanisms in the bond documents in order to rely on expensive and complicated securities suits, even assuming such suits would be successful. Anti-fraud cases are hard to win, and

124. *See supra* Section II.C.

125. *See supra* Section II.D.1.

126. Section 11 of the Securities Act of 1933 provides for a remedy of fraud in connection with a registration statement filed in connection with the issuance of securities. *See* Securities Act of 1933 § 11, 15 U.S.C. § 77k. Rule 10b-5 provides a cause of action if fraudulent disclosures materially inflate the price of a bond traded on secondary markets. *See* 17 C.F.R. § 240.10b-5 (2014). If the issuer of an SEC-registered bond falsely represented its intent to use proceeds for green activities, these causes of action might provide a remedy. As explained in the text, however, proof of fraudulent intent will be difficult or impossible to prove. Moreover, not all green bonds are registered with the SEC or marketed to U.S. investors.

127. Anonymous Interview, No. 10 (Aug. 16, 2022).

128. *Id.*

anti-fraud claims related to ESG issues are largely untested territory.¹²⁹ Not all failures to deliver on green promises are fraudulent in nature, and a representation of “intention” to undertake a green project might be true when the instrument is issued even if the project is abandoned or changed later.¹³⁰ Even if liability could be established, another critical issue is damages: how are investors harmed when companies do not comply with the green terms of green bonds, assuming the bond is nevertheless repaid per its terms? The most obvious answer is that, in cases in which green bonds are issued at a greenium, investors have sacrificed potential returns (relative to conventional bonds) for green social benefits that are not being delivered. Perhaps recovery of the greenium is an appropriate remedy. But in that case, the maximum damages in a securities class action would be quite modest and perhaps insufficient to support a suit (or deter abandonment of the green promise) in the first place. Reliance on securities law seems wholly inadequate to enforcing green promises.

B. *Understanding the Lack of Enforcement in the Green Bond Market*

This leaves a fourth possible explanation, and one that might best fit the data: green bonds lack enforcement because neither investors nor issuers have strong interests in seeing them enforced. Of course, issuers have no incentives to include more enforcement mechanisms in bond documents than investors demand. But why would green bond investors not seek strong enforcement of green promises? The answer is that green bond investors, while sophisticated, are intermediaries whose interests are not perfectly aligned with those of their beneficiaries.¹³¹ Investment funds care primarily about assets under management.¹³² If ESG is a hot sector, then funds will seek to capture those asset flows and the investment management fees that come with them.

It is certainly the case that positioning one’s fund as an ESG fund can attract assets. ESG funds have been the fastest-growing segment of the mutual

129. It is not uncommon for lawsuits to point to violations of ethics codes or similar “aspirational” statements of corporate policy, although such claims often fail. *See, e.g., In re Banco Bradesco S.A. Sec. Litig.*, 277 F. Supp. 3d 600, 659–60 (S.D.N.Y. 2017) (“As is typically the case, the Company’s Code made no guarantee that it would be followed, nor did it contain any representations of historical fact to the effect that its officers had uniformly abided by it. Therefore, despite its relatively forceful wording, it remains an aspirational and hortatory statement.”).

130. *See supra* notes 47–50, 62.

131. *See generally* Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863 (2013) (arguing that the business model for investment intermediaries lacks incentives for proactively monitoring the performance of the companies in the investment portfolio).

132. Barzuza et al., *supra* note 3, at 1254–55 (describing the incentive for funds to accumulate assets in order to maximize management fees, which are a percentage of assets).

fund market over the last several years.¹³³ This growth has created substantial demand for green assets. Indeed, an entire industry has cropped up around ESG ratings in order to guide asset allocations,¹³⁴ and ESG funds indeed seem to outweigh equities with strong ESG scores.¹³⁵ In that sense, ESG equity funds seem to be delivering what investors likely expect.

In the debt space, green bonds provide an easy way for funds to get ESG exposure. Funds that hold substantial portfolios of green bonds can market themselves as ESG funds and point to their green bond portfolios to back that marketing. To the extent that this framing makes these funds more attractive to investors with an appetite for ESG, green bonds will be attractive for funds to hold. But investors in green funds are almost certainly not sensitive to whether the underlying bonds in ESG funds' portfolios are backed by strong legal enforcement. Fund investors lack both the time and the resources to delve into the details of funds' underlying holdings and are likely to take green claims—and certainly the presence of green bonds in the portfolio—at face value.

This dynamic means that funds are attracted to green bonds but lack incentives to ensure that those bonds are backed by strong enforcement mechanisms. But the incentives of funds are likely worse than that. Fund investors seek out funds with strong performance records.¹³⁶ While investors lack easy insight into the credibility of ESG funds' ESG strategies, performance information is readily available and easy to come by.¹³⁷ This means that funds seeking green bond exposure face a conundrum: if issuers demand compensation for stronger green promises, then those bonds will offer lower returns to the funds and consequently to investors. If investors are sensitive to the performance difference, but not to the difference in green terms, then funds are likely to settle for minimally credible green promises in order to get green

133. Harriet Agnew, Adrienne Klasa & Simon Mundy, *How ESG Investing Came to a Reckoning*, FIN. TIMES (June 6, 2022), <https://www.ft.com/content/5ec1dfcf-eea3-42af-aea2-19d739ef8a55> [<https://perma.cc/2KH9-NULD>] (“Investing within an ESG framework is now the fastest-growing segment of the asset management industry.”).

134. See Brian Tayan, *ESG Ratings: A Compass Without Direction*, HARV. L. SCH. F. ON CORP. GOV. (Aug. 24, 2022), <https://corpgov.law.harvard.edu/2022/08/24/esg-ratings-a-compass-without-direction/> [<https://perma.cc/S2DZ-BQJ5>].

135. Curtis et al., *supra* note 3, at 399.

136. Erik R. Sirri & Peter Tufano, *Costly Search and Mutual Fund Flows*, 53 J. FIN. 1589, 1590 (1998).

137. Mutual fund performance information is public and available through websites like Yahoo Finance and funds' own websites as well. See, e.g., *Voo: Vanguard S&P 500 ETF*, VANGUARD, <https://investor.vanguard.com/investment-products/etfs/profile/voo> [<https://perma.cc/L35E-S74D>]. SEC regulation requires the inclusion of performance information in mutual fund prospectuses. See U.S. Sec. & Exch. Comm'n, Form N-1A 12 (2023), <https://www.sec.gov/files/formn-1a.pdf> [<https://perma.cc/66A3-C5B9>].

bond exposure at the smallest possible greenium. To seek out more credible bonds would be a competitive disadvantage unless a fund could somehow market the bond terms to investors in the face of lower returns.

If the foregoing correctly describes the dynamics of the green bond market, then the resulting equilibrium seems close to what we observe in the market. The greenium is small because funds are unwilling to give up substantial returns in order to get green bond exposure, lest asset flows suffer. Enforcement mechanisms are weak because the market for assets under management does not reward strong enforcement but does reward good returns. Issuers have no incentive to bind themselves to green promises more strictly than the market demands and cannot get investors to sacrifice additional returns for more credible terms, so the credibility of green bonds has gradually eroded over time.

To be clear, this does not necessarily suggest that green bond issuers are systematically defaulting on green promises. Our analysis is limited to establishing that many green bonds lack substantive legal enforcement of green promises, but it is nevertheless possible that in many cases green projects are undertaken as described or emissions goals are pursued. Our interviews suggest that most market participants feel that most green promises are kept even as they share our skepticism about the enforcement of such promises. Nevertheless, it is notable that bond investors do not tolerate weak commitments when it comes to the financial terms of either green or conventional bonds. In the next section, we discuss how green bonds might be revised to offer more protection to investors.

C. *Potential Solutions*

The lack of contractually enforceable promises in the green bond space is concerning.¹³⁸ To be sure, contractual enforceability is not a prerequisite for green investment strategies. One could, for example, invest in ordinary bonds issued by firms with favorable ESG ratings. Such bonds would carry no special contractual status, but this would be a plausible way to run a green fund. But the green status of green bonds is not extrinsic to the bond documents. Their greenness arises not from the nature of the firm, but from the nature of the instruments. Indeed, part of the attraction of green bonds is that they provide a means for an investor to provide capital to polluters and other “dirty” firms to transition by funding specific projects. The problem is that these apparent promises are, all too often, disclaimed elsewhere.¹³⁹ These disclaimers, and the

138. *See supra* Section II.B.

139. *See supra* Section II.C.

absence of legal enforceability, creates problematic space between what green bonds are perceived to be and what they actually are. If a bond document contains pages of provisions regarding use of proceeds or other green obligations, those provisions ought to matter legally. If that is not the intention, then those provisions ought not to be part of the document. If issuers wish to engage in aspirational cheap-talk about climate ambitions or green projects' issuances without incurring liability, they are free to do so in press releases or on their websites. Putting green promises in the bond document ought to mean something.

As noted above, our understanding of the market forces at play makes us (and our respondents) skeptical that the market is likely to move, on its own, to an equilibrium in which strong legal enforceability prevails.¹⁴⁰ Intermediary investors lack incentives to press for better terms. Assuming that the principal investors who hold green assets through intermediaries genuinely care that the promises they receive are credible,¹⁴¹ then there is at least the possibility that the existing equilibrium could be shifted. There is some evidence that such demand exists. While the quality of contractual promises has declined over time,¹⁴² investors have been pushing for increasing transparency and disclosure.¹⁴³ Bond frameworks for monitoring have proliferated, and organizations like the Climate Bonds Initiative ("CBI") offer certification services. These innovations suggest an appetite for credibility, but this appetite has—for whatever reason—failed to focus on legal enforceability. If the legal terms of bonds could be made more salient, such that the principal investors could have some transparency into the legal quality of the bonds in their funds' portfolios, then issuers might be incentivized to produce better legal terms, and fund managers would be well-positioned to screen for them.

140. See, e.g., *supra* notes 100–02 and accompanying text (describing interview respondents' skepticism that the market will move towards legal enforceability).

141. If neither the intermediary investors nor the principal investors care about the legal enforceability of promises, then there would truly be no one to demand better terms, but then why should green bonds exist in the first place? Such a view of the market seems unduly cynical, even for us.

142. See *supra* Section II.C.

143. See, e.g., Taylor Pearce, *Investors Seek 'Transparency, Engagement, and Open Dialogue' in Green Bonds Issuance*, OMFIF (Dec. 2, 2021), <https://www.omfif.org/2021/12/investors-seek-transparency-engagement-and-open-dialogue-in-green-bond-issuance/> [<https://perma.cc/25NN-6LKM>]; Bram Bos, *Green Bonds: Connecting Fixed Income Capital to the Global Climate Transition*, GOLDMAN SACHS (Jan. 3, 2023), <https://www.gsam.com/content/gsam/us/en/institutions/market-insights/gsam-insights/perspectives/2022/green-bonds-fixed-income-capital.html> [<https://perma.cc/YG3K-5PZN>].

1. Upgrading Certifications

A number of entities evaluate and certify green bonds. For example, the CBI has developed a Climate Bonds Standard linked to a certification scheme designed to enhance the credibility of green bonds issuances.¹⁴⁴ These standards, in the words of the CBI, are a “voluntary labelling scheme for bonds and other debt instruments . . . that allows investors, governments, and other stakeholders to identify and prioritize low-carbon and climate-resilient investments and avoid greenwashing.”¹⁴⁵ The standard imposes extensive disclosure and documentation requirements on green bond issuers with the goal of ensuring that issuers receiving the certification are aligned with the goals of the Paris Accords. The EU has floated its own proposal for a green bond standard based on similar goals,¹⁴⁶ and the International Capital Markets Association (“ICMA”) publishes Green Bond Principles, which provide “voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market.”¹⁴⁷ There is an appetite for credibility in the green bond market, and these certification mechanisms, to the extent that they provide enhanced transparency, likely contribute to a more credible marketplace for green bonds.

What is striking, though, amid all the disclosure-oriented requirements associated with these certifications and standards, is a lack of engagement with the actual terms of the bond instrument. For example, CBI provides the following requirements in its Use of Proceeds section in version four of its Climate Bonds Standard:

1. The Issuer shall document the Nominated Projects and Assets which are proposed to be associated with the Bond and which have been assessed as likely to be Eligible Projects and Assets. The Issuer shall establish a list of Nominated Projects and Assets which can be kept up-to-date during the term of the Bond.

144. See CLIMATE BONDS INITIATIVE, CLIMATE BONDS STANDARD VERSION 4.0, at 5 (2022) [hereinafter CBI, CLIMATE BONDS STANDARD] <https://www.climatebonds.net/files/files/DRAFT-climate-bonds-standard-v4-public-consultation-060922-Final.pdf> [<https://perma.cc/A2HZ-J37M>].

145. *Id.*

146. European Parliament Press Release, European Green Bond Standard: New Measures To Reduce Green Washing (May 17, 2022), <https://www.europarl.europa.eu/news/en/press-room/20220516IPR29640/european-green-bond-standard-new-measures-to-reduce-green-washing> [<https://perma.cc/UJC8-L6ED>].

147. *Green Bond Principles*, INT’L CAP. MKT. ASS’N, <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/> [<https://perma.cc/39JD-U6NJ>].

2. The expected Net Proceeds of the Bond shall be no greater than the Issuer's total Investment Exposure to the proposed Nominated Projects and Assets, or the relevant proportion of the total Market Value of the proposed Nominated Projects and Assets which are owned or funded by the Issuer.

3. Nominated Projects and Assets shall not be nominated to other Certified Debt Instruments, unless it is demonstrated by the Issuer that distinct portions of the Nominated Projects and Assets are being funded by different Certified Debt Instruments or, the existing Certified Debt Instrument is being refinanced via another Certified Debt Instrument.¹⁴⁸

The ICMA principles are similar:

The net proceeds of the Green Bond, or an amount equal to these net proceeds, should be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer So long as the Green Bond is outstanding, the balance of the tracked net proceeds should be periodically adjusted to match allocations to eligible Green Projects made during that period The GBP encourage a high level of transparency and recommend that an issuer's management of proceeds be supplemented by the use of an external auditor, or other third party, to verify the internal tracking method and the allocation of funds from the Green Bond¹⁴⁹

The green bonds we examine generally have a use-of-proceeds section and describe an associated project, if sometimes in vague terms. The CBI usefully provides standards to determine which projects meet the requirements of their certification. This is surely important information for investors. But, as we describe above, many instruments expressly disclaim a legal obligation to follow through on use of proceeds provisions. What happens when issuers fail to follow through on their green promises?

Failure to follow through on the use of proceeds commitment is contemplated in the CBI Standards. In particular, section 9 provides:

An Assessed Entity shall stop using the Certification Mark: . . .

2. Where the Applicant entity becomes aware that the Assessed Entity no longer conforms with the Climate Bonds Standard and provides a

148. CBI, CLIMATE BONDS STANDARD, *supra* note 144, at 16.

149. INT'L CAP. MKT. ASS'N, GREEN BOND PRINCIPLES: VOLUNTARY PROCESS GUIDELINES FOR ISSUING GREEN BONDS 6 (2021), https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles_June-2022-280622.pdf [<https://perma.cc/ML25-NBXN>].

written statement to that effect to the Climate Bonds Standard Secretariat.

3. Where an Assurance Engagement commissioned by the Applicant company, or the Climate Bonds Standard Board finds that the Assessed Entity no longer conforms with the Climate Bonds Standard.

4. If the Certification is revoked in accordance with [Standards for Revocation of Certification].¹⁵⁰

Thus, in instances in which an issuer has failed to apply proceeds as required or the project in question is canceled or changes so that its environmental benefits are no longer sufficient, the primary penalty would be the decertification of the bond. This decertification is sometimes termed a “green default.”¹⁵¹

But a green default is not actually a default. As one legal primer for investors puts it, the answer to “What is my recourse if a green bond is no longer green?”¹⁵² is “determined by the terms and conditions of the bond . . .”¹⁵³ And those terms provide no recourse in the usual case. Certification may matter to issuers, and, as far as we can tell, decertifications are rare events, but the absence of legal consequences means that incentives to hold to green promises if economic conditions change are weak at best. Decertification is ultimately a reputational sanction and likely of modest impact, as even complete loss of access to the green bond market would cost the issuer only the greenium.¹⁵⁴

The good news is that the existence of robust, widely adopted standards means that an institutional mechanism exists that could address the lack of accountability. A simple change would be for green bond standards to account for the means by which green promises can be enforced and not just the substance of those promises. How? There is ample room for creativity, and not every bond issuance need take the same approach. Different levels of legal commitment could even be tied to tiers of certification. The point is to ensure that enforcement mechanisms are not overlooked. One reasonable option suggested by commentators¹⁵⁵ would be to tie the coupon of the bond to a green default so that payments increase if the green promises are not kept. This is

150. CBI, CLIMATE BONDS STANDARD, *supra* note 144, at 42.

151. Clare Corke, Julie Myers & Cameron Busch, *Green Bonds Series: Part 4 - When 'Green' Bonds Go Brown*, LEXOLOGY (Oct. 17, 2019), <https://www.lexology.com/library/detail.aspx?g=0a6503d3-d4ff-44fc-ab2b-5166c157f630> [<https://perma.cc/CP3Y-TGUD>].

152. *Id.*

153. *Id.*

154. Ironically, decertification may be a bigger deal for the investors, should their mandate include a requirement that investments be certified, than for the issuer.

155. Corke et al., *supra* note 151.

much the way that Sustainability-Linked Bonds operate. The challenge in such instruments is to ensure that the financial penalty is meaningful. Alternatively, commentators have suggested creating a put feature in the event of a green default,¹⁵⁶ so that the issuer could be forced to buy the bond back. The challenge in that scenario is to avoid strategic behavior in which a bondholder opportunistically seeks to exercise the put due to trivial missteps on use of proceeds. But, in either case, enforcement at least becomes a transparent feature of the bond.

In our view, incorporating these features into certification regimes is an achievable, if possibly insufficient, mechanism to address empty promises in green bonds. Green failures and canceled projects need not result in full-blown default, but a mere decertification of the bond is too weak an incentive and raises questions about the sincerity of the bond market. With issuers investing in robust disclosure and auditing regimes around green promises, certifiers should demand transparency and material stakes around enforcement as well. Indeed, certifiers, if they were able to obtain adequate assurances from issuers, might be willing to put some risk of liability on themselves.¹⁵⁷

2. Fund Disclosures

The foregoing puts the onus on issuers and certifiers to bring transparency to green bond enforcement. While the certification regime is a reasonable starting point for addressing the lack of legal commitment in the green bond space, it may be insufficient. The certification regimes themselves are products of private ordering. While the EU has proposed a green bond framework, it is voluntary, and the CBI is entirely nongovernmental as well as voluntary. While private ordering reflects a demand for transparency and assessment of green projects, it has not—as of yet—demonstrated a demand for accountability. As discussed above, a potential issue is that neither the issuers nor the funds buying the bonds have strong incentives to ensure that promises are credible.¹⁵⁸ If that is the case, then even offering enhanced (but voluntary) certifications might be insufficient to address weak accountability in green bonds.

To nudge the market toward a private-ordering solution, it may be necessary to make green bond enforcement mechanisms more salient to investors, and that is best achieved by addressing the disclosures directly. Both in the United States and the European Union, regulators have sought to have

156. *Id.*

157. Rose, *Certifying the 'Climate,' supra* note 99, at 76–77; see Paul Rose, *Sustainability Verification*, 72 AM. U. L. REV. 1017, 1029 (2023).

158. A number of respondents emphasized this lack of incentives. See *supra* notes 100–02 and accompanying text.

funds that brand themselves as green or ESG provide clarity on how funds implement those goals.¹⁵⁹ For example, in the United States, a proposed SEC rule would require that funds holding themselves out as pursuing ESG strategies would need to make specific disclosures about how they intend to pursue those strategies.¹⁶⁰

One possibility would be to leverage proposals like the SEC rule to require disclosures regarding certain green bond terms, such as suitability disclaimers, that proactively limit liability. Interestingly, the proposal release for the rule appears to contemplate distinct disclosure requirements for green bonds, seeking comment on whether there are “any particular attributes of green bonds, social bonds and/or sustainability-linked bonds that warrant specific disclosures tailored to these investments?”¹⁶¹

Our answer to the query would be “yes.” In funds that rely on green bond holdings to establish ESG bona fides, it may make sense to ask those funds to disclose their policies regarding the enforcement of green promises, suitability disclaimers, and so on. If investors choose these funds because of their green commitments, then the strength of those commitments are a relevant consideration, and it is hard to see how investors could gain transparency into that issue without additional disclosures. Assuming investors care about the credibility of green promises, this disclosure is beneficial to investors, reasonably easy for funds to provide, and has the potential to move the market toward stronger terms when it comes to green default. If funds are required to disclose and investors respond to those disclosures—perhaps because they are incorporated into third-party ESG fund ratings—then those funds would have incentives to improve their green bond holdings to attract investments.

A drawback of this approach is that the universe of investment funds is large and changes to SEC disclosure standards (and EU disclosure standards) would only touch part of the market. Even if investors in these funds are sensitive to green bond enforcement, the assets at stake might be too small to move the green bond market. Even if that is the case, we would argue that these investors at least deserve transparency about their portfolios.

159. Enhanced Disclosures by Certain Investment Advisers and Investment Companies about Environmental, Social, and Governance Investment Practices, 87 Fed. Reg. 36654, 36655 (proposed June 17, 2022) (to be codified at 17 C.F.R. pt. 200) [hereinafter Enhanced Disclosures]; European Commission Press Release, Sustainable Finance: Commission Welcomes Political Agreement on European Green Bond Standard (Mar. 1, 2023), https://ec.europa.eu/commission/presscorner/detail/en/mex_23_1301 [<https://perma.cc/UAJ8-JKPE>].

160. Enhanced Disclosures, *supra* note 159, at 36658.

161. *Id.* ¶ 51.

D. *Affinity Bonds*

While the foregoing reforms would help address enforcement issues in the green bond market, it may also be worth thinking more ambitiously about market reforms. One challenge, as revealed by our interviews, is that many market participants have a modest preference for green bonds, and issuers receive a modest greenium, but because the stakes on either side of the ledger are low, there is little appetite for more aggressive terms. We wonder, though, if it may be possible to raise those stakes and push the green bond market toward a different equilibrium.

We have in mind the model of Israel Bonds¹⁶² (technically the Development Corporation for Israel). These bonds are issued by Israel and raise funds for the general purposes of the Israeli government. Like green bonds, part of the attraction to investors is to support a cause, and the bonds are frequently purchased with the aim of showing support to Israel.¹⁶³ And, like green bonds, Israel Bonds have attracted institutional and professional assets as well as individual investors. But Israel Bonds contain features that make them less attractive to investors than most sovereign debt. First, as one source puts it, the interest rates are “not particularly generous.”¹⁶⁴ Second, and more intriguing, the bonds have explicit constraints on transferability and can generally only be resold to the Israeli government or transferred under certain limited circumstances.¹⁶⁵ This means there is effectively no secondary market in the bonds, a significant drawback for buyers.

So, the (apparently successful) model for Israel Bonds is to identify a pool of investors motivated by a cause and offer terms that would be attractive mostly to those interested in supporting the cause. Israel has never defaulted on its debt, but it is reasonable to surmise that the investors in Israel Bonds, given their motivations, would be easier to work with in distress. Similarly, the investors might expect Israel to act in good faith because Israel receives material benefits from the Israel Bond issuances relative to standard market terms and

162. *DCI/Israel Bonds*, ISRAEL BONDS, <https://www.israelbonds.com/About-Us/DCI-Israel-Bonds.aspx> [<https://perma.cc/PP3U-VSDK>]; see also Suhas L. Ketkar & Dilip Ratha, *Diaspora Bonds: Tapping the Diaspora During Difficult Times*, 1 J. INT'L COM. ECON. & POL'Y 251, 262 (2010).

163. Kathy M. Kristoff, *Pluses and Minuses of State of Israel's Bonds*, L.A. TIMES (June 21, 1992, 12:00 AM), <https://www.latimes.com/archives/la-xpm-1992-06-21-fi-1538-story.html> [<https://perma.cc/L98E-8UTK> (staff-uploaded, dark archive)].

164. *Id.* One of our respondents who was familiar with the Israel Bonds program reported that the rates were usually comparable to market rates for Israeli government securities and sometimes more generous, but that investors were generally willing to take lower rates when Israel was in crisis. See Anonymous Interview, No. 43 (Jan. 18, 2023).

165. See ISRAEL BONDS, CORPORATE ASSIGNMENT SEPARATE FROM BOND (2014), [https://www.israelbonds.com/getattachment/4d82d8ff-b2a3-4e3e-b739-215d903437d9/Assignment-Form-Corporate-\(1\).aspx](https://www.israelbonds.com/getattachment/4d82d8ff-b2a3-4e3e-b739-215d903437d9/Assignment-Form-Corporate-(1).aspx) [<https://perma.cc/2FF8-7ZCA>].

can preserve those benefits only by treating investors well. The affinity of bond investors and the heightened stakes for Israel ought to make renegotiation, should it ever be required, a lower cost proposition, and serve to deter Israel from mistreating a group of investors willing to lend at favorable rates.¹⁶⁶

Perhaps this model could serve green bonds as well. The greenium is, by all accounts, small, but there may be a subset of dedicated green bond investors who would give up more for projects with a dramatic green impact. If companies can access these investors by credibly committing to fund projects with positive environmental impacts, they could borrow at lower rates, even if the pool of available capital is smaller. Accessing a more significant greenium should make repeat borrowers more committed to their green projects, lest they lose out on favorable terms in the next issuance. That the pool of investors is willing to accept a lower interest rate suggests that they will more vigorously monitor green projects but might be less likely to opportunistically raise the issue of a green default if the project is still providing environmental benefits.

Whether the market would support such an arrangement is an open question. That it has not sprung up already is perhaps a sign that the demand is not there, but the demand for green bonds is sufficiently complex, heterogenous, and channeled through intermediaries that a shift to (or addition of) a smaller set of more credible and impactful green bond issuances may be a real possibility. In any case, the model of Israel Bonds suggests that a different kind of green bond market might be possible.

CONCLUSION

We analyze the legal terms of the green bond market and find a concerning lack of enforceable promises. Issuers of green bonds almost never promise to devote proceeds to green activities. The few bonds that do include promissory language often include contradictory language denying the existence of any promise. Even if an investor could point to a green promise, there would be no meaningful remedy. These documentation practices have become more entrenched over time, with the market moving towards lesser rather than greater enforceability. And market participants understand these facts and see little reason to expect meaningful change. This seems to be the result of an issuance environment in which issuers have leverage in the presence of strong demand for green bonds, and funds have little incentive to offer transparency. The lack of enforceability is a latent risk that could potentially be addressed through better certification regimes and improved fund disclosures.

166. See Anonymous Interview, No. 43 (Jan. 18, 2022); Anonymous Interview, No. 45 (July 26, 2022); Anonymous Interview, No. 47 (July 27, 2022).