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Corporate Sustainable Finance

Abstract: Sustainable debt financing has exploded in recent years, growing from \$29 billion in new debt issuances in 2013 to \$1 trillion in new issuances in 2023. The continued success of the sustainable finance movement will depend on issuers' motivations to engage in sustainable finance. This essay investigates the justifications for sustainable finance through a hand-collected dataset of disclosures made by green, social, and sustainability bond issuers. Review of these disclosures reveals that material legal, physical, and regulatory risks sometimes impact these issuers, but that these risks are not identified as motivations for engagement in sustainable finance. Instead, issuers appear to be motivated by shareholder pressures and a desire to enhance the green, socially engaged, or sustainable nature of their corporate brand.

Keywords: sustainable finance, green bonds, sustainability-linked bonds, corporate bonds

I. Introduction

As sustainable finance comes of age, green, social, and sustainability bonds have become an increasingly important mechanism to expand sustainable finance from “billions to trillions” (Kim 2015), and in the past ten years the sustainable finance market has grown from \$29 billion to over \$1 trillion in new sustainable debt issuances (Bloomberg NEF 2022; Gardiner and Freke 2024). Public finance will form a crucial catalyst for the market for sustainable investments, but more important will be the development of private markets, as private investment “underpins economic growth, know-how and technology transfer, job creation, and productivity gains” (African Development Bank et al. 2015, 12). But this development begs an essential question: What motivates private companies to engage in sustainable finance?

This essay seeks to shed light on this question through a theoretical and empirical analysis of sustainable finance motivations. The essay first catalogs possible theoretical motivations for issuing green and sustainability bonds. Corporations may have a variety of incentives, most of which are not mutually exclusive, for engaging in sustainable finance. For instance, corporate managers may seek to mitigate particular climate-related business risks, transition to a lower-cost form of energy, or reduce the regulatory burdens or litigation risks associated with certain environmentally harmful business practices. Corporations may also seek to establish the corporation as a green, sustainable, environmentally conscious, or socially conscious brand. Such efforts might be a sincere form of greenbranding, but could also be part of a deceptive scheme of greenwashing (Watson 2016).

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Because some issuers have found eager markets for green and sustainability bonds, issuers may also enjoy a premium (in the form of a lower interest rate to be paid to investors) for green issuances as compared to standard bond issuances. This so-called “greenium” may reduce the issuer’s cost of capital, providing another financial motivation for sustainable finance. Corporations may also face pressures from key stakeholders, including employees, to reduce the corporations’ environmental impact. And, increasingly, corporations face pressure from shareholders on a wide variety of environmental, social, and governance (ESG) issues. But corporations may also shape their own investor base through sustainable financing. By issuing green and sustainability bonds, corporations may attract a broader set of investors, and in particular may attract investors who are eager to support management efforts to reduce climate-related impacts from a corporation’s operations. Corporations using sustainable finance provide a signal to the market about a sustainable corporate purpose, thereby attracting ESG-focused equity investors and acclimating current equity investors to a more ESG-focused management tone, while also providing engagement opportunities with investors on ESG issues.

After reviewing theoretical motivations, the essay provides an analysis of SEC-mandated public disclosures through the lens of these possible motivations. The essay reports on disclosure trends that help reveal how corporations describe climate-related risks, how shareholder proposals pressure corporations to act on sustainability or social issues, and how corporations describe their green and sustainability bond issuances to shareholders. Several themes emerge from an analysis of the disclosures. First, green and sustainability bond issuers tend not to be firms operating in heavily polluting industries. In other words, the firms that would most benefit from the transition financing offered by green and sustainability bonds are not the ones issuing them. Second, the companies engaging in sustainable finance rarely seem to face actual climate or sustainability risks. Because most issuances do not appear to be motivated by a desire to mitigate risks, other motivations, such as the desire to engage in sustainable finance as a form of branding, may be more likely explanations for corporate green and sustainability bond issuances.

II. Green Finance Motivations

As sustainable finance becomes increasingly prevalent, scholars have begun to investigate why and how private entities invest in sustainability and engage in sustainable finance, and whether corporate sustainable finance results from internal forces (such as risk management) or external forces (such as investor demand for green bonds). For example, Sergio Gilotta (2024) notes both demand- and supply-side arguments for sustainable finance. On the demand side, investors—and younger investors, particularly—are increasingly seeking sustainable finance assets in which to invest. Some investors may be willing to sacrifice returns to access sustainable investments, while others see sustainable finance as a means to reduce regulatory risks or long-term business risks. On the supply side, the pool of eligible green and sustainable projects is growing, driven by investor pressure but also by policy changes that promote sustainability, resilience, and a transition from brown to green business practices. Shareholders may also benefit from sustainable finance because green bonds often trade at a premium over comparable “plain vanilla” bonds, thereby allowing firms to decrease their cost of capital. Finally, issuers may use sustainable finance as a marketing strategy to “improve the firm’s reputation among environmentally conscious consumers,” which may in turn “translate into higher sales (or higher margins) in the product market and thus into higher profits” (ibid. at 232).

Caroline Flammer identifies several similar motivations for corporate green bonds. First, green bonds

may provide a positive signaling effect to both investors and stakeholders. By issuing a green bond, the corporation demonstrates its “commitment to the environment,” and such a signal “can be valuable, as investors often lack sufficient information about the company’s environmental commitment” (Flammer 2021, 500). This view is sometimes expressed in press accounts of green and sustainability bond issuance. In a *Wall Street Journal* account of recent green bond offerings, for example, the reporter observes that green bond issuance “comes as companies face pressure from investors, regulators and employees to show the steps they are taking to improve the environment . . . [including] by issuing debt tied to sustainability targets” (Broughton 2021). Second, green bonds could simply be a form of “greenwashing,” in which the company misleads investors and stakeholders about its environmental commitments (Flammer 2021). Third, if green bond investors are willing to sacrifice returns in order to invest in green products (perhaps as a means of demonstrating their own commitment to green finance), companies may seek to issue green debt not because of a commitment to the environment, but to take advantage of strong investor interest in sustainable finance. If investors are willing to pay a premium for sustainable debt, issuers may lower their cost of capital.

As discussed in this part, viewing the question from the perspective of SEC-mandated disclosures provides a complementary framing of managerial motivations. As noted above, corporate managers must disclose material business and regulatory risks. For example, Kimberly Clark, a consumer paper goods company, describes both transition risks and physical risks in its 2023 10-K (Kimberly Clark 2024, 9):

There is growing concern that carbon dioxide and other greenhouse gases in the atmosphere may have an adverse impact on global temperatures, weather patterns, water availability and quality, and the frequency and severity of extreme weather and natural disasters. We have transition risks related to the transition to a lower-carbon economy and physical risks related to the physical impacts of climate change. Transition risks include increased costs of carbon emission, increased cost to produce products in compliance with future regulations, increased raw materials cost, shifts in customer/consumer values and other legal, regulatory and technological risks. Physical risks include the risk of direct damage to assets or supply chain disruption caused by severe weather events such as floods, storms, wildfires and droughts. In addition, concern over climate change by governments and regulators globally have resulted and may continue to result in new legal and regulatory requirements to reduce or mitigate the effects of climate change on the environment (or conversely, to restrict activities to address or consider climate change and related matters).

Summarizing these motivations, corporations may issue green bonds to finance projects that help to manage physical and transition risks (such as, for example, a water reclamation facility). Second, corporations may also seek to attract consumers or improve employee morale through greenbranding or may seek to dampen criticism through greenwashing. Similarly, corporations may face pressures from shareholders on environmental and social issues, and may also seek to shape their own investor base through green issuances that will attract investors aligned with managerial sustainability goals. Finally, issuers may seek a lower cost of capital—a greenium—by issuing debt that enjoys a premium over otherwise comparable standard bond issuances. Each of these motivations is discussed in more detail in the following sections.

A. Business and Regulatory Risk Management

Some issuers may face particular business and regulatory risks and see a transition to greener or more sustainable operations as a means of mitigating these risks. Some of these risks may be a result of increased regulation of certain types of manufacturing processes or from changing consumer preferences. Utilities are a powerful example of companies facing such risks, and public utilities companies are some of the most common issuers of green bonds. The sustainable financing framework of the Southern Company, an energy services holding company with subsidiaries serving nine million customers, illustrates how some utilities are responding to these market and regulatory pressures (Southern Company 2021, 4):

In addition to reducing our GHG emissions and complying with applicable environmental regulations, we're reducing our impact on the environment through stewardship—protecting valuable natural resources, wildlife and habitats. Southern Company is transitioning our energy generation fleet for a net-zero future. In doing so, we have established an intermediate goal of a 50% reduction in carbon emissions from 2007 levels by 2030 and a long-term goal of net-zero carbon operations by 2050. Our strategy to achieve these goals includes the continued development and deployment of a diverse portfolio of energy resources to provide clean, safe, reliable and affordable energy to serve our customers and communities. To do this, we are growing our investment in renewable energy, modernizing the grid to optimize technology advancements, reducing emissions through increasing use of natural gas, building new nuclear generating units, continuing our industry-leading, robust research and development efforts, and investing in energy efficiency for savings on both sides of the meter.

While investing in “the environmental standard of their business” through green bond issuance, S&P Global argues, companies may enjoy “direct financial benefit by reducing operational costs—for example, reducing energy bills through energy-efficiency measures” (S&P Global 2016). Yet utilities and other corporate issuers with carbon-intensive operations may also be driven to green bond issuance because of current and future disclosure requirements that track corporate progress on environmental or social measures. Companies will “manage what they measure,” so disclosure of climate and environmental information can spur companies to take actions to “improve their environmental credentials” (ibid.).

B. Greenbranding and Greenwashing

Firms may have marketing motivations for increasing their green, social, or sustainability credentials. While some companies may decide to invest in green, social, or sustainable projects because of material risks faced by the company, others view green, social, or sustainable investing as means to enhance their credentials as ESG leaders and tap into ESG-oriented markets. For example, some studies have shown that a significant number of consumers are willing to pay a premium for products that are produced with more care for the environment or for the working conditions under which the products are made (European Commission 2020; Essoussi and Linton 2010).

The positive signaling function of green and sustainability debt is often underlined by bond issuers in their disclosures about the issuances. In the press release accompanying Walmart Inc.'s \$2 billion 2021 green bond offering, for example, Walmart's chief sustainability officer stated that “[b]ecoming a regenerative company is a journey. This green bond signals that we continue to make headway”

(Walmart Inc. 2021). Similar branding and strategy motivations also drive the issuance of some social and sustainability bonds. Morgan Stanley, for example, issued a \$1 billion social bond in October 2020 to “support individuals and families of low or moderate incomes, many of whom are struggling to meet housing costs in the pandemic-affected economy” (Morgan Stanley 2021, 1). There is no particular business or regulatory risk that Morgan Stanley seems to be attempting to mitigate through the issuance, but rather the social bond issuance is part of a broader business strategy that “seeks to create a more resilient planet and inclusive economy, while delivering long-term value for our clients and shareholders” (ibid. at 2).

Any discussion of green and sustainability branding or business strategy would be incomplete, of course, without considering the dark side of such strategies: the risk of greenwashing and socialwashing. This concern has become increasingly common, particularly with the rise of ESG-focused funds claiming to invest in ESG-related companies and activities. For example, the SEC’s chair, Gary Gensler, in a March 1, 2022, post on Twitter (now X), attempted to signal the SEC’s concern with the risk of greenwashing:

When it comes to ESG investing . . . there’s currently a wide range of what asset managers might mean by certain terms, and what criteria they might use. Some funds, they screen out certain industries. Others, they might include other industries. And yet, other funds make assertions about the greenhouse gas emissions or water sustainability of the underlying companies they’re investing in. So, which data and criteria are asset managers actually using to ensure they’re meeting your goals as investors. You’re the people to whom they’re marketing their funds as “sustainable” or “green,” and I think investors should be able to drill down and see the ingredients underlying these funds.

Greenwashing and socialwashing result from the current definitional fluidity of green and sustainability investing, although efforts by private self-regulatory organizations like the International Capital Markets Association and governmental bodies like the European Union are working to develop clearer standards for the use of these terms.¹ As private firms are increasingly expected to engage in the mitigation of environmental and social risks, the market for green and social investments will likely grow commensurately.

C. Shareholder and Stakeholder Pressure

Management literature has identified various pressures on managers to issue green debt that do not stem either from the desire to brand or signal the firm as green, sustainable, or socially engaged, or from performance-related concerns such as climate risk management. Instead, firms may be concerned with questions of legitimacy and, as Maltais and Nykvist put the issue, the firm’s “so called ‘license to operate’ at a societal level” (2020, 6). Thus, greenbranding may be used to show that a company is more “green” than its competitors, while stakeholder pressure will often seek to push a company toward acceptable norms. Firms will face pressure to “conform to norms and expectations that are imposed on the organisation by pressures that are external to the organisation’s primary mandate (although pressures can come from both external and internal stakeholders)” (ibid. at 6). In

¹ Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 Amending Delegated Regulation (EU) 2021/2139 as Regards Economic Activities in Certain Energy Sectors and Delegated Regulation (EU) 2021/2178 as Regards Specific Public Disclosures for Those Economic Activities (Taxonomy Complementary Climate Delegated Act), 2022 O.J. (L 188).

the case of US firms, and particularly those incorporated in Delaware, a powerful norm of wealth maximization would generally dictate the firm's primary mandate (Bainbridge 1993). While many of the performance-related justifications for engagement with sustainable finance may be entirely consistent with (and even driven by) wealth-maximization concerns, some surveyed issuers have reported a "willingness to do the extra work needed to issue green bonds despite very good access to capital" (Maltais and Nykvist 2020, 15); in other terms, the issuance of green bonds arises not out financial need, but from other motivations.

One of the primary mechanisms by which investors apply pressures to corporate management on ESG issues is through shareholder voting, and, specifically, through shareholder proposals that seek a precatory vote on matters of environmental, social, or governance significance to the proponents. Proposals that don't come to a vote may also indicate engagement. Even a withdrawn proposal should not be seen as a failure by shareholder influencers, but instead is often a sign of success as an indication that the company has decided to engage with the shareholder on the particular issue raised by the proposal, and the proposal is then withdrawn because the shareholder has already succeeded in influencing management. As Bauer, Moers, and Viehs (2015, 484), found in a study of over twelve thousand shareholder proposals filed between 1997 and 2009, proposals from "more influential shareholders" (including labor unions and other large institutional investors) are more likely to be withdrawn than proposals filed by private, "gadfly" shareholders, suggesting that these larger shareholders have engaged in "successful private negotiations with the management before the [annual general meeting]." Managers are also more likely to engage with investors when the company has a large institutional shareholder base, a fact that becomes increasingly relevant as large institutional investors prioritize ESG issues (Balp and Strampelli 2020).

Firms may also be responding to employee pressure to engage in green, prosocial, or sustainable activities, or to cease activities that tend to harm the environment, erode worker rights, or damage vulnerable populations (Briscoe and Gupta 2021). For many employees, the desire to not be ashamed (and ideally, to be proud) of one's association with a firm can be a powerful driver of employee engagement, and firm issuances of green and sustainability bonds may, in part, demonstrate a responsiveness to this key constituency (Garner and Gong 2020).

As noted above, green and sustainability instrument shopping may drive some issuance decisions. Investors may have specific mandates or targets that require them to seek sustainable investment opportunities. But corporate issuers, too, may be seeking a certain kind of investor. Companies also make use of the proxy process to signal their attention to sustainability issues. As Flammer notes, companies issuing green bonds may attract an investor clientele that values the long term and the natural environment (Flammer 2021).

The notion that firms may craft their investor base, at least to a limited degree, has not been widely explored in the legal literature. An important exception, however, is Edward Rock's framing of "shareholder eugenics" in public corporations, in which firms may engage in recruitment strategies—to find "good" shareholders—and socialization strategies—to turn bad or neutral shareholders into good shareholders (Rock 2012). In describing how firms might value some shareholder traits and behaviors over others, Rock identified a desire for long-term and patient investment in a company, trading behavior that reflects an "evaluation of firms according to long-term fundamental value rather than short-run earnings," and the ability to increase firm value, such as by bringing specific skills, expertise, or credibility to the firm (*ibid.* at 855).

While some of these traits may not hold the same value in the context of bondholders, given that bondholders are creditors as opposed to residual claimants with the related benefits of voting rights and fiduciary duties (Easterbrook and Fischel 1991), issuers nonetheless cite the development and expansion of their investor base as a justification for the issuance of green and sustainability bonds. A 2020 survey of eighty-six institution treasurers indicates that green bonds allow firms to both shop for and shape “good” investors. Ninety-eight percent of survey respondents stated that the issuance of a green bond allowed them to shop for new investors, with the benefits of achieving “1) a more diverse pool of investors, offering greater flexibility to reopen or issue new bonds 2) a stickier investor base and 3) greater visibility” (Harrison et al. 2020, 4). A green bond issuance also allowed most firms to shape their investor base, with 91 percent of respondents saying that a green bond “facilitated more engagement with investors compared to a vanilla one,” and with investors engaging on “the use of proceeds, the framework, and post issuance reporting,” resulting in “investors having a more intimate knowledge of the organisation” (ibid. at 4).

D. Cheap Money

Green bonds face higher transaction costs than traditional bonds (Wu 2023). In addition to the standard analysis provided by credit ratings agencies, labeled green bonds must also be accompanied by a second party opinion or other verification of their “green” status. On the other hand, demand for green financial products is strong (Bos 2023), and scholars have spent considerable effort in determining the extent to which issuers are able to obtain a greenium—a discount on the interest rate they must pay to investors, compared to that for conventional bonds. As summarized by Ben Silmane, Da Fonseca, and Mahtani (2020), numerous studies have examined green bond pricing both at issuance and in secondary trading. The studies typically perform regressions of bond yields (or yield spreads) and are often conducted by matching pairs of green bonds and conventional bonds that share otherwise identical characteristics, so as to isolate the “green” designation. The studies generally show mixed results, with most studies finding only a small greenium, if one is found at all. Focusing specifically on the corporate bond market, for example, Fatica, Panzica, and Rancan (2021) find that corporations enjoy a small greenium, and that certified green bonds—in other words, those bonds that comply with the Green Bond Principles (GBP) and have been verified by an external reviewer—have a larger premium than “self-labeled” green bonds.

As some issuers are deliberate in noting the positive signal of their bond issuance, others are deliberate in expressing a financial motivation for the issuance. If a company may already be seeking to invest in sustainable projects, perhaps because doing so reduces their material risks and increases or smooths their overall performance, the company may choose to seek green or sustainability designation because investors will pay more for such a designation. This may be the case where, for example, a fund has established a target for green investment. As a result, issuers may find that the demand for green and sustainability bonds exceeds that for conventional offerings, thereby providing issuers a potential “premium” (in the form of a reduced cost of capital) for such issuances. For example, Micron, a computer memory and data storage producer, issued a \$1 billion green bond in November 2021, and reportedly saved “five one-hundredths of a percentage point [or \$5,000,000] on the green bond compared with what it would have received in a traditional bond offering, due to strong demand.” As Micron’s chief financial officer observed, “[f]ixed-income investors are looking for opportunities to make investments that are green-related projects. We were aligning with what I think the fixed-income market was looking for” (Broughton 2021). Overall, however, the premium associated with green bond issuances is generally small and is not guaranteed in every issuance (Maltais and Nykvist 2020).

Surveyed issuers do not consider the green bond premium to be a significant factor in the company's overall issuance decision, though "the effect is large enough for some issuers that they indicated that good financial practice calls for issuing 'green' when possible" (ibid. at 10).

In the following part, this essay moves from theoretical considerations to actual corporate disclosures, and investigates whether the SEC-mandated disclosures, including risk factors, the management discussion and analysis of financial statements, and proxy statement disclosures, help to uncover corporate motivations for sustainable finance. Are companies engaging in sustainable finance because they have certain risks that the issuance of green and sustainability bonds will help mitigate? Do they have human capital risks to which they are responding, such as pressure to engage in green transition activities or change production methods? Or are companies focused instead on potential business opportunities presented by a shift to sustainable finance (including, of course, simply adapting to shifting consumer preferences)? Are there specific shareholder proposals that sustainable finance issuances appear to directly address?

III. Analysis of Corporate Disclosures

Several types of disclosures within required corporate filings are particularly relevant in determining firm motivations for green and sustainability bond issuance. The Risk Factors section of a company's periodic disclosures (through quarterly reports on SEC Form 10-Q and annual reports on SEC Form 10-K) must provide "a discussion of the material factors that make an investment in the registrant or offering speculative or risky," and the discussion must "[c]oncisely explain how each risk affects the registrant or the securities being offered." 17 C.F.R. § 229.105. The SEC has highlighted how climate-related risks might require detailed disclosures. For example, in recent guidance to issuers, the SEC's Division of Corporate Finance has provided sample comments that it might provide to issuers on climate-related disclosures in the risk factors and in the Management Discussion and Analysis section. In the sample comments, the SEC asked the issuer to "[d]isclose the material effects of transition risks related to climate change that may affect your business, financial condition, and results of operations, such as policy and regulatory changes that could impose operational and compliance burdens, market trends that may alter business opportunities, credit risks, or technological changes," and to "[d]isclose any material litigation risks related to climate change and explain the potential impact to the company" (SEC 2010).

The Management's Discussion & Analysis of Financial Condition and Results of Operations (MD&A), 17 C.F.R. 229.303, is another possible tool to help uncover an issuer's motivations for engaging in sustainable finance. The MD&A provides a narrative disclosure that accompanies and gives context to an issuer's financial statements. The objective of the MD&A is to "provide material information relevant to an assessment of the financial condition and results of operations of the registrant," and it focuses investor attention on "material events and uncertainties known to management that are reasonably likely to cause reported financial information not to be necessarily indicative of future operating results or of future financial condition." 17 C.F.R. § 229.303. The SEC has emphasized that climate and sustainability risks may become "material events and uncertainties" for certain firms, and noted in its 2010 Climate Change Guidance that while companies would not have to disclose known trends, demands, commitments, events, or uncertainties that are not reasonably likely to occur, if the company is not able to make such a determination, it must "evaluate objectively the consequences of the known trend, demand, commitment, event or uncertainty, on the assumption that it will come to fruition" (SEC 2010, 19).

Item 103 of Regulation S-K requires registrants to briefly describe any material pending legal proceedings, other than “ordinary routine litigation incidental to the business.” 17 C.F.R. § 229.103. Additionally, the rules specifically require disclosure of “administrative or judicial proceedings involving Federal, State, or local provisions that have been enacted or adopted regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment.” 17 C.F.R. § 229.303(c)(3).

Finally, proxy statement disclosures may also provide important information about why a firm might engage in sustainable finance. The SEC has long allowed shareholders to submit shareholder proposals—using the company’s own proxy statement—that impact “significant social policies,” but has balanced the inclusion of such proposals against company-specific concerns with the materiality of the proposal (Tallarita 2022, 1697). However, the SEC’s 2021 guidance in Staff Legal Bulletin No. 14L clarifies that the Commission will be increasingly skeptical of company efforts to exclude proposals that “raise significant social policy issues” from the company’s annual proxy. In particular, the SEC has determined that a company may not exclude a proposal on a socially significant issue, even if there is no “nexus between a policy issue and the company” (SEC 2021). Shareholders have had success in placing proposals on sustainability and climate-related matters in company proxy statements, and the frequency of these proposals (and whether they were successful in convincing other shareholders) can provide information on the extent to which a company engaging in sustainable finance did so after receiving pressure from shareholder activists (such as in the form of shareholder proposals to consider climate change issues in its supply chains, to link executive pay to ESG-related targets, or to reduce the company’s dependence on fossil fuels, or any other green, social, or sustainability-related factor that may be important to investors).

A. Sample Data

Having identified the types of disclosures that are most useful in identifying corporate motivations for engaging in sustainable finance, the essay now turns to corporations’ actual disclosures. The analysis of these disclosures was straightforward. First, a sample was developed of firms in the S&P 500 index that had issued a green, social, or sustainability bond between 2013 and 2021, using data provided by Climate Bonds International.

Table 1 shows the green, social, or sustainability bond issuers from Q1 2013 through Q2 2021 that are included in the S&P 500 index. Some of the issuers issued multiple green or sustainability bonds.

Table 1. Green, Social, and Sustainable Bond Issuers Included in S&P 500 Index, Q1 2013 Through Q2 2021

Company	Bond	GICS Category*
Aflac Incorporated	Sustainability	Financials
Alphabet Inc.	Sustainability	Communication Services
Amazon.com, Inc.	Sustainability	Consumer Discretionary

Analog Devices, Inc.	Green	Information Technology
Apple Inc. (2016)	Green	Information Technology
Bank of America	Sustainability	Financials
Citi Group	Green	Financials
Digital Realty	Green	Real Estate
FedEx Corporation	Sustainability	Industrials
Goldman Sachs Group, Inc.	Sustainability	Financials
HP Inc.	Sustainability	Information Technology
JPMorgan Chase & Co.	Sustainability	Financials
Kellogg	Sustainability	Consumer Staples
Mastercard Incorporated	Sustainability	Financials
Norfolk Southern Corporation	Green	Industrials
PepsiCo, Inc.	Green	Consumer Staples
Pfizer Inc.	Sustainability	Health Care
Salesforce	Sustainability	Information Technology
Southern Company	Green	Utilities
Starbucks	Sustainability	Consumer Discretionary
Sysco	Sustainability	Consumer Staples
Truist Financial Corporation	Sustainability	Financials
Verizon	Green	Communication Services
Visa Inc.	Green	Financials
Welltower Inc.	Green	Real Estate
* GICS Whirlpool Corporation	Sustainability	Consumer Discretionary (Global

Industry Classification Standard) is an industry categorization framework developed by MSCI and S&P Dow Jones, and is made up of 11 sectors, 25 industry groups, 74 industries, and 163 subindustries. MSCI, The Global Industry Classification Standard (GICS), <https://www.msci.com/our-solutions/indexes/gics>.

Only a handful of other firms in the top three most polluting industries (energy, materials, and utilities) engaged in sustainable finance. Note also that fossil fuel companies are not represented among the issuers. Financial services firms were the largest category of issuer, making up nearly a third of all green or sustainability bond issuers (eight out of twenty-six).

Disclosures from these firms were hand collected from proxy statements and annual reports filed on Form 10-K, and included disclosures in the year preceding issuance and in the year of issuance. The documents were reviewed for disclosures involving climate change, sustainability, the environment, supply chain risks, regulatory risks relating to environmental or climate change–related regulations, investment risks relating to climate change, environmental litigation, or reputational risks relating to sustainability. Although the full documents were searched and reviewed, particular attention was paid to how these issues were discussed in the Risk Factors section, the MD&A, the Legal Proceedings disclosure, and companies’ proxy statements.

B. Testing Theories of Sustainable Finance Motivations

In general, the disclosures are most interesting for what they do *not* say. While many of these issuers provide significant disclosures about climate-related risks, sustainability initiatives, and shareholder engagement on sustainability issues, they do not tend to explain why the companies engage in sustainable finance, nor do the issuers tend to provide any disclosure on how sustainable finance fits into their overall sustainability strategy.

1. Business Risk

The disclosure provided by green and sustainability bond issuers shows several overlapping themes, but the disclosure appears appropriately tailored to the particular risks of the issuer. Of the twenty-six issuers in the sample, thirteen provided disclosures about how climate change generally would affect their company, with most noting physical risks such as rising sea levels, rising heat index, and wildfires. Some companies, like Kellogg and PepsiCo, face risks relating to the impact of climate change on agriculture, while others, such as Welltower (a real estate investment trust) and Norfolk Southern (a railway company), face significant property risks. Financial services firm issuers Goldman Sachs and JPMorgan Chase noted how climate-related risks to their clients could impact their businesses, and Whirlpool, Truist, and Aflac noted that the quality of the securities and other assets they hold may be negatively impacted by climate change. Utility firm Southern Company noted regulatory and financial risks related to the impact of GHG legislation, regulation, and emission reduction goals, has set a goal to reduce GHG emissions by 50 percent from 2007 levels by 2030, and intends to have net-zero GHG emissions by 2050 (Southern Company 2021).

Some issuers, including Alphabet, Apple, Digital Realty, Pfizer, and Sysco, noted specific risks to their supply chains. Pfizer’s disclosure notes, for example, that “[c]limate change presents risks to our operations, including the potential for additional regulatory requirements and associated costs, the potential for more frequent and severe weather events, and water availability challenges that may impact our facilities and those of our suppliers” (Pfizer 2023). Interestingly, however, they also note that the company periodically reviews its vulnerability to potential weather-related risks and other natural disasters, and, on the basis of those reviews, “we do not believe these potential risks are material to our operations at this time” (ibid.).

The most common climate-related risk disclosure, noted by seventeen out of twenty-six issuers, is the possibility of climate-related regulation that will impact their business. Most of these disclosures are general and perhaps the most susceptible to a “boilerplate” criticism. A few are more targeted and specific. FedEx, for example, notes that it faces a variety of regulations at the local, state, national, and international levels, and that “[c]ompliance with such regulation and the associated potential cost is complicated by the fact that various countries and regions are following different approaches to the regulation of climate change” (FedEx 2021, 23). FedEx also notes that increased regulation could “impose substantial costs on us,” and that such cost increases include “the cost of the fuel and other energy we purchase and capital costs associated with updating or replacing our aircraft or vehicles prematurely” (ibid at 35).

Southern Company was the only issuer to provide disclosure that links its bond issuances to its firm-specific risks (although even in this case the linkage was indirect). Southern described four bond issuances in its 2022 proxy statement, three of which relate to renewable energy projects that are part of a sustainable financing program that “help[s] optimize our balance sheet and benefit[s] customers” (Southern Company 2022, 1). Other issuers either did not reference their bond issuances or provided cursory disclosure with no suggestion that the bond issuances related to firm risks. In sum, evidence from the disclosures does not link bond issuances to particular firm risks. While the lack of disclosure does not rule out the possibility that particular risks may have played a role in the issuance, the disclosures that were provided suggest other motivations.

2. Greenbranding and Greenwashing

Greenbranding may be regarded as a positive attempt by firms to respond to stakeholder and stockholder desires, but insincere greenwashing presents significant risks for firms in potential loss of credibility with consumers and investors, as well as potential antifraud liability in more serious cases. Indeed, some green and sustainability issuers note in their risk factors a concern that they will be accused of greenwashing or socialwashing or will be perceived as failing to live up to their sustainability commitments. Aflac notes, for example, that the company could suffer a “perception of . . . [a] lack of commitment to sustainability efforts and attention to societal impacts, unfavorable positions on items of public policy, or from failure to make progress toward our sustainability goals” (Aflac 2022, 25). Goldman Sachs is also particularly attuned to reputation risks, particularly through their financing of certain industries (Goldman 2022, 42).² PepsiCo, as a consumer products company, discloses numerous risks relating to reputation. They note, among other things, a risk of “failure to achieve our other sustainability goals, including with respect to plastic packaging, or to be perceived as appropriately addressing matters of social responsibility,” as well as risk of “failure to achieve our goals with respect to reducing our impact on the environment or perception (whether or not valid) of our failure to act responsibly with respect to the environment or to effectively respond to new, or changes in, legal or regulatory requirements concerning climate change” (PepsiCo 2023, 19).

Analysis of corporate disclosures suggests that, at least to date, green and sustainability bonds do not appear to be used by the most polluting companies to transition to more sustainable practices, but

² These risks have increased as activists have targeted lending activities to fossil fuel companies (see, for example, Rainforest Action Network et al. 2023).

instead are used largely by firms with low emissions levels (Hartzmark and Shue 2022). Relatedly, with few exceptions, issuers do not tend to identify significant risks—other than regulatory risks—that the green and sustainability bonds are meant to mitigate. Instead, it seems that green and sustainability bond issuers are using their bonds as signaling or branding mechanisms.

These results generally align with financial analysis of the impact of green bonds issuance. Flammer, reviewing a set of corporate green bonds issued between 2013 and 2018, finds a modest but positive stock price reaction to the announcement of a green bond issuance of 0.49 percent (Flammer 2021). Consistent with a signaling function, Flammer also finds that issuers of green bonds benefit from a stronger market response to certified green bonds, and first-time green bond issuances also generate a stronger market response. Green bond issuers also tend to improve their environmental performance following a green bond issuance, as measured by an increased Thompson Reuters ASSET4 score and decreased CO₂ emissions (Quantitative Services Group 2009). Long-term investors and “green” investors are increasingly attracted to green bond issuers. Because of these improvements in performance, Flammer’s 2021 study suggests that green bonds are not “merely tools of greenwashing” (Flammer 2021, 3). And, because there is no significant evidence of a greenium in Flammer’s results, issuers are likely not attracted to green bonds simply as tools to lower their cost of capital.

The notion that corporations issue green bonds at least in part in response to a social and political environment—as opposed to a sincere effort to manage climate-related risks—is also supported by a cooling of the sustainability-linked bond market compared to the growth of the green bond market. Through the early months of 2024, green bond issuances increased 48 percent year over year, while sustainability-linked bond issuances dropped 51 percent (Broughton 2024). Unlike sustainability-linked bonds, which tie bond interest rates to the issuer’s performance of certain sustainability-linked obligations, green bonds do not have an enforcement mechanism to ensure that issuers meet their green commitments (Curtis et al. 2023). Green bonds can thus give the appearance of action without the necessity of actionable commitment. Meanwhile, issuers are reluctant to issue sustainability-linked bonds, despite investor interest, because they are reluctant to commit to hard targets (Broughton 2024).

3. Shareholder Pressure and Investor Shopping

Of the twenty-five green or sustainable (“GS”) bond issuers in the sample, eighteen included discussion of sustainability commitments in the proxy statement. Only a minority of GS bond issuers—seven out of twenty-five—received shareholder proposals related to sustainability or climate change in the three years preceding the issuance of their GS bonds. Generally, however, ESG-related shareholder proposals do not receive significant support from shareholders, with only 21 percent of shareholders supporting climate-related shareholder proposals in 2023 (Spierings 2024). Further, even when they do receive majority support, directors are not obligated to implement the proposals’ recommendations (Principles for Responsible Investment 2023) because the proposals are merely precatory.

The most successful climate- or sustainability-related proposal among GS issuers is found in the 2021 Norfolk Southern annual meeting, in which a shareholder proposal requesting a report on if and how

direct and indirect lobbying activities aligned with the Paris Agreement received 76 percent approval by shareholders. Although the company's preexisting green bond framework (Norfolk Southern 2021) does not relate to the subject of the proposal, the company's response to the proposal shows how shareholder pressure can (at least sometimes) shape corporate behavior. As requested by the proposal, the company reported that it had engaged with shareholders after the vote to "better understand our shareholders' concerns in this area and what they wanted to see in our report" (Norfolk Southern 2022a). The company provided an enhanced climate lobbying report in 2022 (Norfolk Southern 2022b).

4. Cheap Money

Given that the greenium is relatively modest (when it can be identified at all), it perhaps does not come as a surprise that corporations do not cite a greenium as a motivation for green or sustainable bond issuances for any of the issuers. Indeed, many issuers did not even treat their green and sustainability issuances as materially different events from their other debt issuances. Only about half provided any disclosure of what the bond proceeds would finance. Even when made, such disclosures only offered basic categories of investment. FedEx disclosed, for example, that "we intend to use an amount equal to the net proceeds from the offering of the Sustainability Notes to fund or refinance a portfolio of new or ongoing projects in the following areas: clean transportation; green buildings; energy efficiency; eco-efficient and/or circular economy adapted products, production technologies and processes; pollution prevention and control; renewable energy; and socioeconomic advancement and empowerment" (FedEx 2021). No issuer mentioned an advantageous cost of capital as a motivation or benefit from the issuance of green and sustainability bonds.

IV. Conclusion

Corporations are driven by diverse, often overlapping, incentives to partake in sustainable financing. For instance, they might aim to address specific climate-related risks to their business, shift toward more cost-efficient energy solutions, or lessen the regulatory or legal challenges tied to environmentally detrimental activities. Furthermore, corporations may attempt to position themselves as entities that are environmentally and socially responsible, although such efforts could range from genuine greenbranding initiatives to more disingenuous acts of greenwashing.

The corporate pursuit of sustainability is also increasingly influenced by the demands of important stakeholders, such as employees, to mitigate environmental impacts, as well as by shareholder advocacy on a variety of ESG matters. Engaging in sustainable finance sends a message to the market of the corporation's commitment to sustainability, attracting ESG-focused equity investors, conditioning existing investors to a more ESG-conscious management approach, and creating dialogue opportunities with investors about ESG concerns.

Several broad conclusions result from the analysis of corporate sustainable finance disclosures. Issuers don't seem to be focused on risk management through green and sustainability bond issuance, and no

issuer disclosed a greenium³ or the expectation that the company would receive a greenium as a motivation for an issuance. Issuers do tend to provide significant disclosures about green commitments, however, in both annual reports and proxy statements. The proxy statement, in particular, is designed to speak to shareholders about management's vision for the company; for many green and sustainability bond issuers, the proxy statement provides an opportunity to describe management's commitment to sustainability, and the issuance of a green bond or sustainability bond is sometimes part of that branding disclosure.

Worryingly, many firms that are among the most significant polluters, and thus stand to benefit most from transition financing through green bonds, do not take advantage of corporate sustainable finance opportunities; for some of these firms, perhaps, a decision *not* to engage in sustainable finance may also be part of the firms' branding and marketing calculations. Ultimately, motivations other than risk mitigation seem to drive the use of corporate green and sustainability bonds.

While this analysis suggests that some skepticism of green bond issuance is warranted, it is also the case that many US issuers and their investors have not benefited from clear definitions from regulators to help evaluate climate-related disclosures and green commitments. Private standards, such as the Green Bond Principles, do not seem to provide an adequate protection against greenwashing (Curtis et al. 2023; Chan 2021). Perhaps, then, as the SEC and other regulators develop, harmonize, and enforce sustainable finance standards, issuers will have more incentive to engage in authentic sustainable finance initiatives and to avoid greenwashing.⁴

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³ Note that not all motivations must be disclosed; a bond issuer must disclose the issuance of new debt, but is not required to disclose motivations for a particular issuance. The company balance sheets will disclose (1) the general character of each type of debt, including the rate of interest; (2) the date of maturity, or, if maturing serially, a brief indication of the serial maturities, such as "maturing serially from 1980 to 1990"; (3) if the payment of principal or interest is contingent, an appropriate indication of such contingency; (4) a brief indication of priority; and (5) if convertible, the basis. 17 C.F.R. § 210.5-02.

⁴ A recognition of the limits of SEC enforcement is crucial, however: the SEC is a disclosure regulator, not an environmental standards regulator. The SEC has no ability to require disclosures by nonreporting "private" firms, and there is a risk that the climate disclosure rules may encourage firms to go private in order to operate in the shadows (see Winden 2022). But see Coates (2022), arguing that most companies are already providing significant climate information, and are unlikely to go public in response to the SEC's rules.

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