A Model Sustainability-Linked Convertible (SLC) Agreement as a Formal Relational Contract

Joon Hyug Chung * Hyoung-Goo Kang†

July 1, 2024

Abstract

Sustainability Linked Bonds (SLBs) have gained significant traction in recent years. Unlike green or social bonds, SLBs do not restrict the use of proceeds, allowing issuers with brown assets to issue them as well. A notable feature of SLBs is the application of step-up penalties if the issuer fails to meet Key Performance Indicators (KPIs), providing financial incentives to achieve sustainability goals. However, from the investor's perspective, there is a potential issue: if the issuer fails to meet KPIs, investors may actually benefit economically, thereby reducing their incentive to monitor and ensure the achievement of sustainability goals. This paper introduces a new financial contract, the Sustainability-Linked Convertible (SLC) Agreement, that leverages the mechanism of convertible bonds, providing issuers with stronger financial incentives to meet sustainability goals and investors with greater incentives to actively engage with the issuer on sustainability issues.

Keywords: Sustainability-Linked Convertible, ESG Performance, Formal Relational Contract, Incomplete Contract, Convertible Bonds, Sustainable Finance, Corporate Governance, Financial Innovation, Incentive Mechanisms

*Seoul National University School of Law
†Hanyang University Business School. Correspondence.

1 Introduction

The intersection of financial and sustainability strategies has increasingly become a focal point for both investors and corporations, driven by a growing recognition of the urgent need for action on ESG issues (Flammer, 2021; Kim et al., 2021). Amidst this backdrop, the development of financial instruments that can incentivize and reward sustainable corporate behaviors is of paramount importance (Tang & Zhang, 2020). In this regard, Sustainability Linked Bonds (SLBs) have gained significant traction in recent years. Unlike green, social, or sustainability bonds that limit the proceeds to certain green, social, or sustainability projects, SLBs do not restrict the use of proceeds, allowing issuers with brown assets to issue them if they can commit to less-brown goals. A notable feature of SLBs is the application of step-up penalties if the issuer fails to meet Key Performance Indicators (KPIs), providing financial incentives to achieve sustainability goals. However, from the investor's perspective, there is a potential issue: if the issuer fails to meet KPIs, investors may actually benefit economically, thereby reducing their incentive to monitor and ensure the achievement of sustainability goals (Antonio et al., 2021).

This paper introduces a novel financial contract, the Sustainability-Linked Convertible (SLC) Agreement, which represents an innovative blend of sustainability performance targets with the flexibility and financial appeal of convertible bonds (Aghion & Bolton, 1992; Dewatripont & Tirole, 1994). The SLC Agreement distinguishes itself by dynamically integrating issuers' cost of capital and conversion rights with their success in meeting specific ESG objectives, unlike traditional financial instruments that typically treat sustainability as a fixed factor in allocating control rights. Traditional tools fail to adjust control rights (Grossman & Hart, 1986; Hart, 2017; Hart & Moore, 1988) based on sustainability performance, positioning sustainability as a peripheral rather than a central component of their governance framework. In contrast, the SLC places ESG achievements at the heart of its structure, thereby motivating issuers to focus on and realize their sustainability goals while providing investors a means to both encourage and gain from the shift to sustainable business operations.

Central to the SLC Agreement is the concept of a formal relational contract (Frydlinger et al., 2019) and incentive contracting (Holmström, 1979). This approach extends beyond the rigid frameworks of traditional contracts by fostering a dynamic, adaptive relationship between issuers and bondholders. Through this relational and state-contingent contract, both parties commit to trust, ongoing communication, adjustment, and alignment of cash-flow

rights and control rights in response to evolving sustainability states, goals and challenges.

The basic structure of the SLC Agreement is as follows: (i) if the company achieves its ESG targets, it can either repay the bond at a agreed lower interest rate or convert the debt into equity. This provides the company with an option to restructure its capital, aligning with its long-term financial strategy. The option to convert debt to equity helps the company optimize its capital structure, offering significant financial incentives to meet ESG goals. Investors, believing that a satisfaction of sustainable goals or an increase in ESG ratings will enhance the company's value, benefit from equity conversion. The improved ESG performance can lead to higher market valuation. For publicly listed companies, investors have the flexibility to sell their converted shares in the stock market, providing a clear exit strategy.

(ii) On the other hand, if the company fails to meet the KPIs, it must pay a step-up penalty to the investors. This penalty ensures that the company faces a tangible consequence for not achieving its ESG goals. Unlike SLBs where a payment of the penalty brings an end to the relationship between the issuer and the investors, investors are required to actively engage in the sustainability management of the company. Investors are required to use a certain portion of the penalty amount to hire ESG experts and cover costs related to active management participation. They gain rights to actively participate in the company's management, including various consents and management participation rights, such as appointing a director specializing in sustainability issues and actively engaging in governance to improve ESG performance. The company is required to follow the advice of investor-appointed directors and ESG experts, ensuring proactive measures are taken to improve its ESG performance.

After a specified period of engagement, (x) if KPIs are met, investors have the option to either convert their bonds into equity or receive the principal and accrued interest. This flexibility ensures that investors are rewarded for their commitment to ESG improvements. By contrast, (y) if the company fails to meet the ESG targets within the specified period, investors are entitled to receive the principal and interest, but they must return a portion of the previously received penalty. Such claw-back provision provides financial incentives for investors to actively monitor and engage in sustainability issues. However, in cases where the failure to meet ESG goals is due to the company's negligence or refusal to honor investor management rights, the company must pay an additional penalty to the investors.

By detailing the structure, mechanisms, and strategic implications of the SLC

Agreement, this paper contributes to the emerging literature on sustainable finance by proposing a model that not only encourages the integration of ESG factors into corporate strategies but also aligns financial incentives with sustainability outcomes. In doing so, it addresses a critical gap in current financial practices, offering a pathway for leveraging capital markets to drive substantive progress on sustainability.

2 Literature Review

The evolution of sustainable finance has led to the development of various financial instruments aimed at supporting ESG goals. Green bonds, social bonds, and sustainability bonds have emerged as prominent tools for directing capital towards projects with positive environmental and social impacts (Flammer, 2021). However, the effectiveness of these instruments in driving tangible sustainability outcomes remains a subject of ongoing debate (Berrada et al., 2022; Carrizosa & Ghosh, 2022; Kim et al., 2022; Kim et al., 2021; Kölbel & Lambillon, 2022).

Green bonds, for instance, have been critiqued for their lack of transparency and standardization, raising concerns about "greenwashing" (Baldi & Pandimiglio, 2022; Jones et al., 2020; Shi et al., 2023). While they mobilize capital for environmentally beneficial projects, the static nature of their terms restraints continuous improvement in issuers' sustainability performance. Similarly, social and sustainability bonds, despite their broader focus on social and combined ESG objectives, often lack mechanisms to ensure that the funded projects lead to sustained long-term impacts.

The concept of sustainability-linked loans (SLLs) and bonds (SLBs) marks a notable progress in overcoming these limitations by linking financial terms to the attainment of specific sustainability performance targets. These financial instruments introduce dynamic incentives for issuers to improve their ESG performance over time. Nonetheless, studies on SLLs and SLBs have identified several challenges, including the selection of performance indicators, the rigor of target-setting, the verification of outcomes, and certain design flaws (Aleszczyk et al., 2022; Antonio et al., 2021; Barbalau & Zeni, 2022; Hachenberg & Schiereck, 2018; Shin, 2021; Ul Haq & Doumbia, 2022). Furthermore, these instruments primarily concentrate on the allocation of cash-flow rights, overlooking control rights (Becht et al., 2003; Netter et al., 2009).

In response to the gaps identified in existing sustainability-linked financial instruments, the theoretical underpinnings of Sustainability-Linked Convert-

ible (SLC) Agreements draw on the principles of performance-sensitive contracts and convertible securities. Performance-based contracts, by aligning financial returns with specific outcomes, offer a compelling model for incentivizing sustainability achievements (Holmström, 1979). Meanwhile, convertible securities, such as convertible bonds and convertible notes, provide a framework for integrating cash-flow rights and control rights by allowing the conversion of debt into equity under certain conditions (Aghion & Bolton, 1992; Kaplan & Strömberg, 2003).

The integration of sustainability performance metrics into convertible agreements presents an innovative approach to sustainability financing. By enabling the terms of conversion to be contingent upon meeting ESG targets in line with incomplete-contracting approach, SLC Agreements offer a mechanism for aligning financial incentives of the issuers and investors with sustainability outcomes.

In summary, while the literature on sustainable finance has evolved significantly, the development of instruments that effectively link financial terms to dynamic sustainability performance remains in its infancy. The introduction of SLC Agreements represents a step forward, promising to address the critiques and limitations of existing instruments by fostering a more integrated approach to financing sustainability.

A distinctive feature of our theoretical framework is the integration of the incomplete contracting approach alongside formal relational contract theory into the structure of Sustainability-Linked Contracts (SLCs). The concept of incomplete contracting recognizes the inherent challenge of forecasting all possible future contingencies within a contract's framework. This acknowledgment paves the way for contracts to incorporate flexibility, allowing parties to adapt and renegotiate terms as unforeseen circumstances arise (Aghion & Bolton, 1992; Hart & Moore, 1988). This flexibility is crucial in a rapidly changing environment, where rigid contracts may quickly become obsolete or counterproductive.

In parallel, the formal relational contract theory underlines the significance of interpersonal relationships and trust in the fulfillment of contractual obligations. This theory suggests that successful contract execution often depends on the unwritten norms and expectations between parties, extending beyond the mere text of the agreement (Frydlinger et al., 2019; Macaulay, 2018, 2020). In the context of SLCs, this perspective emphasizes the role of mutual understanding, goodwill, and cooperation in achieving sustainability objectives, highlighting that the essence of a contract transcends its written provisions.

The SLCs stand out as an innovative application of these theoretical insights within the realm of sustainable finance. By crafting a convertible agreement that dynamically allocates control rights in response to the issuer's sustainability performance, SLCs embody a forward-thinking approach. This design incorporates a dynamic adjustment mechanism that is both anticipatory, preparing for potential future scenarios, and adaptive, capable of adjusting to them as they unfold.

3 Detailed Examination of SLC Agreement Clauses

This section presents a thorough analysis of the specific clauses that constitute the SLC, elucidating their mechanics, objectives, and the manner in which they integrate sustainability performance with financial outcomes. The SLC Agreement's structure is dynamic and state-contingent in its approach, embedding sustainability targets directly into the financial instrument to incentivize and reward sustainability achievements. The appendix includes a sample model of a Sustainability-Linked Contract (SLC). This section provides an explanation of SLCs, structured according to the format of the model SLC contract presented.

3.1 Sustainability-Linked Convertible Agreement: A Formal Relational Contract Approach

The primary aim of the SLC Agreement is to incentivize issuers to embed sustainability deeply within their strategic and operational frameworks. By directly linking financial terms—such as the cost of capital and conversion terms of bonds—to the issuer's ESG performance, the Agreement seeks to align the issuer's financial incentives with sustainability outcomes. This approach not only encourages the issuer to achieve and exceed established ESG goals but also aligns the interests of issuers and investors towards the broader objectives of sustainable development. The vision behind the SLC Agreement is to establish a tangible linkage between capital costs, control rights and sustainability performance, thereby fostering a culture of accountability and transparency in reporting ESG outcomes. It is envisaged as a mechanism to drive corporate behavior towards more sustainable practices, making ESG integration a cornerstone of corporate strategy and governance.

Classified as a formal relational contract, the SLC Agreement transcends traditional contractual frameworks by emphasizing long-term relationships,

flexibility, and mutual understanding between the contracting parties (Frydlinger et al., 2019). Unlike conventional financial instruments, which focus on specific transactions and stringent legal stipulations, the SLC Agreement incorporates a blend of formal and relational contract elements, fostering a dynamic partnership oriented towards achieving sustainability goals. This contractual approach acknowledges the complexities and evolving nature of sustainability challenges, emphasizing the need for continuous dialogue, adaptability, and shared commitment to ESG objectives. It envisages a collaborative journey towards sustainability, where both issuers and investors engage in an iterative process of setting, achieving, and reassessing ESG targets. The formal relational contract framework underscores the importance of trust and mutual respect, establishing a foundation for the contractual relationship that extends beyond mere compliance with legal obligations. It reflects a shared understanding that achieving significant ESG outcomes requires sustained effort, cooperation, and a willingness to adapt to changing circumstances and emerging sustainability imperatives.

The SLC is designed with a multifaceted approach to advance sustainable corporate practices, anchored in five key objectives. First, it seeks to deeply integrate ESG considerations into the issuer's strategic planning, operations, and ethos, positioning sustainability as a central tenet of business decisions. This integration is critical for ensuring that sustainability is not peripheral but a core driver of the company's strategy and operational decisions.

Second, the agreement strives to align the financial interests of issuers and investors with the achievement of sustainability objectives. By tying financial terms such as the cost of capital and bond conversion to ESG performance metrics, the SLC creates a symbiotic relationship between financial success and sustainability achievements This ensures that investors in the SLC, who prioritize long-term financial gains, are benefited through the fulfillment of sustainability objectives by the issuers. This alignment ensures that both parties are invested in the pursuit of sustainable development, fostering a collaborative rather than adversarial relationship in achieving these goals.

Third, the SLC establishes a dynamic financial model that actively motivates issuers to meet and exceed defined ESG benchmarks, and investors to monitor and engage in such activities. By making the cost of capital, control rights and the conditions for bond conversion dependent on reaching these benchmarks, it offers a concrete financial incentive for issuers to ambitiously establish and attain sustainability targets. It also allows investors to control ESG projects under specific conditions. This structure not only prompts issuers to meet baseline standards but also encourages them to consistently

explore opportunities to improve their sustainability performance.

Fourth, the agreement emphasizes the importance of transparency and accountability in reporting ESG performance. Through the establishment of robust reporting and evaluation mechanisms, the SLC ensures that both issuers and investors have access to clear, transparent, and verifiable information regarding ESG achievements. This openness builds trust between the parties, ensuring that investors can confidently assess the issuer's commitment to and progress in achieving sustainability goals.

Finally, the SLC Agreement serves as a pioneering model for responsible capital deployment, demonstrating how financial instruments can be innovatively structured to support not just economic growth, but also environmental preservation, social equity, and strong governance. By showcasing how capital can be leveraged to drive positive change, the SLC contributes to the broader societal goal of sustainable development, setting a precedent for how the financial sector can contribute to a more sustainable and equitable world.

In conclusion, the SLC Agreement embodies an innovative approach to sustainable finance, marrying financial incentives with sustainability performance to foster a more accountable, transparent, and sustainable corporate landscape.

3.2 Key Components of the Sustainability-Linked Convertible Agreement

Definitions: Central to the SLC are the definitions of ESG Performance Levels, Conversion Rate, and Interest Rate Adjustments. ESG Performance Levels are predetermined criteria and targets that the Issuer commits to achieving, encompassing a range of environmental, social, and governance factors. These levels are defined to ensure that they are ambitious yet achievable, providing a clear benchmark for assessing the Issuer's commitment to sustainability. The Conversion Rate is another crucial definition, specifying the terms under which the Bonds can be converted into the Issuer's equity. This rate is intrinsically linked to the Issuer's ESG performance, creating an organizational design for achieving or surpassing the predefined ESG targets. Interest (Coupon) Rate Adjustments are mechanisms that modify the bond's interest rate based on the Issuer's performance against the ESG criteria, further tying the financial costs to sustainability outcomes (Berrada et al., 2022; Carrizosa & Ghosh, 2022; Kim et al., 2022; Kölbel & Lambillon, 2022).

Bond Issuance Terms: The Agreement outlines the terms under which the

Bonds are issued, including the Principal Amount, Issue Price, Coupon Rate, and Maturity Date. These terms are standard in financial agreements but are uniquely adjusted in the SLC to reflect the sustainability commitments. For instance, the Coupon Rate is subject to adjustments based on the Issuer's ESG performance, directly impacting the financial cost of the bond based on the Issuer's success in meeting its sustainability objectives.

Key Performance Index (KPIs) Evaluation: A systematic and rigorous ESG performance setup and evaluation mechanism is a cornerstone of the SLC. This section of the Agreement needs to delineate the criteria against which the Issuer's sustainability performance is assessed and the frequency of these evaluations. The criteria can be comprehensive, covering an array of ESG factors that reflect the Issuer's sustainability ambitions and the expectations of the stakeholders (Shin, 2021). The evaluation period is defined to ensure regular assessment and transparency, facilitating ongoing monitoring and adjustments as necessary. This structured approach to ESG evaluation ensures that the Issuer's performance is continuously aligned with the sustainability objectives set forth at the outset of the agreement.

Together, these components form a framework for the SLC, ensuring that the financial structure is inextricably linked to the achievement of ESG goals. By defining clear ESG performance levels, linking financial terms to sustainability outcomes, and establishing a rigorous evaluation mechanism, the SLC fosters a transparent, accountable, and incentive-contracting approach to integrating sustainability into corporate finance and governance.

3.3 Interest Rate Adjustment Mechanism

The interest rate adjustment mechanism represents a continuation of practices established in existing sustainability-linked financial instruments. This mechanism dynamically modifies the interest rate on the Bonds based on the Issuer's performance against predefined ESG criteria, directly linking the Issuer's financial costs to its sustainability performance. The design of this adjustment mechanism is not novel but follows the proven principles of incentivizing sustainable practices through financial terms.

The mechanism operates on a step-up/step-down basis, where the interest rate on the Bonds increases if the Issuer fails to meet the ESG Performance Levels, serving as a financial penalty for underperformance in sustainability goals. Conversely, surpassing these targets results in a reduced interest rate, rewarding the Issuer for exceptional ESG achievements.

3.4 Incorporating Incomplete Contracting into Sustainability-Linked Convertibles

The conversion features of SLC Agreement present an innovative application of the incomplete contracting approach to financial instruments designed to support ESG objectives. This component of the SLC Agreement pioneers the use of state-contingent control right allocation in sustainability finance, utilizing the principles of incomplete contracts to navigate unexpected challenges in achieving ESG goals.

3.4.1 ESG Achievement Success

If the issuer achieves its ESG targets, it can either (i) repay the principal and the accrued interest, applying the stepped-down adjustment, or (ii) convert the debt into equity. If the issuer opts to repay, it can benefit from the lower interest payments by achieving the KPIs. If the issuer opts to convert the debt into equity, this helps optimize its capital structure. This provides the company with an option to restructure its capital, aligning with its long-term financial strategy and offering significant financial incentives to meet ESG goals.

Investors, believing that an increase in ESG ratings will enhance the company's value, benefit from equity conversion. The improved ESG performance can lead to higher market valuation, and a better sustainable portfolio for the investors. For publicly listed companies, investors have the flexibility to sell their converted shares in the stock market, providing a clear exit strategy.

3.4.2 ESG Achievement Failure

If the company fails to meet its ESG targets, it must pay a penalty to the investors, applying the stepped-up adjustment. This penalty ensures that the company faces a financial consequence for not achieving its KPIs. In such cases, a certain cure period is provided to the issuer and the maturity of the bond is extended, unless the missing of KPIs is due to willful misconduct or bad faith of the issuer, in which case the Investors can request for an early redemption of the Bonds.

During the cure period, the investors are automatically involved in the sustainability management of the issuer. As discussed below, investors may lose the financial benefits if ESG goals are still not met within the cure period. Thus, investors can use this portion of the penalty amount to hire ESG experts and cover costs related to active management participation. They

gain rights to actively participate in the company's management, including various consents and management participation rights, such as appointing directors and actively engaging in governance to improve ESG performance. The company is required to follow the advice of investor-appointed directors and ESG experts, ensuring proactive measures are taken to improve its ESG performance.

To assure investor's right in the issuer, an investor rights agreement previously executed between investors and the issuer at the the of the issuance automatically comes into effect upon the missing of the KPIs. In scenarios where a controlling shareholder holds control within the issuer, said controller needs to be bound by the agreement to ensure the investor's involvement over the issuer. Consequently, the investor obtains specific rights to engage in the issuer's management, including the ability to nominate a board member empowered to initiate actions aimed at improving the issuer's ESG performance. Additionally, the investor is endowed with various consent rights concerning ESG-related matters.

This capability allows bondholders to potentially intervene in the issuer. This mechanism is a practical embodiment of state-contingent control rights allocation, fundamental to incomplete contracting theory. As noted by Aghion and Bolton (1992) and Hart and Moore (1988), it's impossible for contracts to anticipate every possible future scenario, thereby requiring frameworks that adjust decision-making rights based on observable occurrences. Within the SLC Agreement, this state-contingent trigger transfers certain control rights to bondholders in cases of ESG underachievement.

3.4.3 Post-Cure Period Outcomes

After the cure period, (x) if KPIs are met, investors have the option to either convert their bonds into equity or receive the principal and accrued interest. This flexibility ensures that investors are rewarded for their commitment to ESG improvements. By contrast (y) if the issuer fails to meet the ESG targets within the specified period, investors are entitled to receive the principal and interest. Additionally, they must return a portion of the previously received penalty. This provides a strong incentive for the issuer to engage in the sustainability improvement of the issuer. In cases where the failure to meet ESG goals is due to the company's negligence or refusal to honor investor management rights, the company must pay an additional penalty to the investors.

In sum, this conversion mechanism acts both as a deterrent against ESG

underperformance and as a motivator for issuers and bondholders to actively pursue sustainability goals. By potentially reallocating governance control to bondholders for not achieving ESG benchmarks, the Agreement offers a significant means of promoting more sustainable corporate actions.

3.5 Enhancing ESG Accountability through Transparency

The commitment to rigorous reporting and transparency in SLC Agreement serves as a foundational element, setting a standard for accountability in ESG performance. This component of the Agreement not only fosters a culture of openness and honesty but also ensures that all stakeholders, especially Bondholders, are well-informed about the Issuer's efforts, achievements, and challenges in the realm of ESG initiatives.

Structured and Insightful Reporting: At the heart of this commitment is the requirement for the Issuer to undertake regular and comprehensive reporting. This obligation goes beyond mere compliance; it is an exercise in accountability, ensuring that ESG performance is not only monitored but also critically assessed against established benchmarks. By mandating detailed disclosures on both quantitative outcomes and qualitative insights, the Agreement provides a holistic view of the Issuer's ESG trajectory. This includes not only successes and progress but also an honest reflection on setbacks and the adaptive strategies employed to overcome them. Importantly, the inclusion of independent third-party reviews enhances the credibility and reliability of the reports, providing stakeholders with assurance of the Issuer's genuine commitment to its ESG agenda.

Commitment to Openness: Beyond the structured reporting, the Issuer's pledge to maintain a high degree of transparency represents a proactive approach to stakeholder engagement. By making ESG reports publicly available, the Agreement breaks down barriers between the issuer and the wider community, including investors, customers, and civil society. The agreement may mandate issuers to disclose the key terms and ESG metrics of the SLCs, surpassing the requirements set by sustainability reporting standards like ESRS or IFRS. This heightened transparency ensures a comprehensive understanding of the SLCs' structure and impact, aligning with broader sustainability objectives and enhancing accountability. This openness invites external scrutiny and dialogue, creating a platform for constructive feedback and collaboration. The willingness to engage openly about ESG strategies and challenges not only builds trust but also fosters a sense of shared responsibility and partnership in achieving sustainable outcomes.

Verification by an Independent Expert: An independent expert (e.g. ESG raters, assurance providers, or legal and environmental advisors) will assess whether the issuer has met its predetermined ESG goals, mitigating the potential for disputes between the issuer and investor regarding goal fulfillment under the agreement. This inclusion of a third-party evaluator enhances the credibility and reliability of the SLC Agreement mechanisms, fostering trust among the parties.

The emphasis on reporting and transparency within the SLC Agreement acknowledges that effective ESG integration requires more than internal commitment; it demands an ecosystem of informed and engaged stakeholders. By institutionalizing these practices, the Agreement elevates the standard for ESG reporting, setting a precedent for how issuers can communicate and collaborate with stakeholders on sustainability issues. This approach not only enhances the issuer's reputation and trustworthiness but also empowers bondholders and other stakeholders to make informed decisions and contributions towards shared ESG objectives.

3.6 Enforcing ESG Commitments through Covenant and Remedial Actions

The SLC delineates a framework to ensure the Issuer's steadfast adherence to its ESG commitments, encapsulated through specific covenants and remedial provisions. This framework is pivotal in reinforcing the Issuer's obligation to integrate and prioritize ESG objectives within its operational ethos and strategic decision-making processes.

Sustained ESG Integration and Stakeholder Engagement: The covenants underscore the Issuer's obligation to not only adopt but continually enhance its ESG practices and policies. This continuous improvement approach ensures that the Issuer remains at the forefront of sustainability best practices, reflecting an ongoing commitment to environmental stewardship, social responsibility, and ethical governance. Furthermore, the covenant to engage stakeholders in its sustainability journey amplifies the collaborative essence of ESG efforts, recognizing that achieving substantial ESG outcomes necessitates a unified approach involving various stakeholders.

Structured Remedial Measures: The Agreement's remedial provisions articulate a clear and structured response to any deviation from the agreed-upon ESG Performance Levels. These measures, including a correction period, the activation of conversion rights, and the imposition of financial penalties, are designed with dual objectives: to provide the Issuer with an op-

portunity to realign its strategies towards achieving ESG benchmarks and to ensure accountability through tangible consequences for non-compliance. The correction period, in particular, emphasizes the Agreement's preference for corrective action over punitive measures, offering the Issuer a window to address and rectify any ESG performance shortfalls in collaboration with Bondholders.

Penalty Put Options and Conversion Rights: In the event of an issuer breaching covenants and failing to remedy the violation within the specified correction period, investors can either exercise their put option or conversion right. Choosing the former prompts the issuer to reimburse the principal alongside interest, calculated at an escalated rate as a penalty. Such reimbursement and increased interests provide incentives to the investor to meet the ESG goals.

Conversely, opting for the conversion right results in the issuance of a predetermined number of new shares to the investor by the issuer. Moreover, if the issuer's ESG performance significantly lags behind the predefined goals, the conversion ratio will be adjusted in favor of the investor, thereby increasing the number of shares issued accordingly. Consequently, the investor will be able to exercise higher influence over the issuer with the shareholdings. Furthermore, the investor is endowed with nomination and engagement rights as per the aforementioned investor rights agreement accompanying the conversion. Subsequently, the investor can actively engage in the management of the issuer, consequently bolstering its ESG performance.

3.7 Incentives of the Investors to foster ESG Goals

Aligning the Interests of Investors and Issuers: SLBs have faced criticism for the lack of alignment of interests between investors and issuers when issuers fail to meet sustainability goals, potentially allowing investors to gain financial benefits. The SLC Agreement addresses these concerns by providing the following solutions. (i) If the company achieves its ESG targets within the original timeframe, it can repay the bond at a lower interest rate or convert the debt into equity for investors. Achieving ESG targets enhances the sustainability of the investor's portfolio, justifying receiving lower interest payments alone. Similarly, converting into equity provides investors with more ESG-friendly stocks, further enhancing the sustainability of their portfolio.

(ii) If the company fails to meet its ESG targets within the original timeframe, investors gain ESG management-related consent rights and participa-

tion rights. The maturity date of the bond automatically extends during the cure period, allowing investors to utilize the penalty for ESG expert consultations and related purposes. This aligns naturally with investors' original intent of improving the issuer's ESG performance. After the cure period, if the KPIs are met, investors have the option to convert the bond into equity or receive the principal plus interest. Holding shares in a company with improved ESG standards can benefit investors. Opting for principal repayment instead of equity acquisition allows investors to maintain economic benefits, including retaining the original penalty. If the ESG standards are not met after the cure period, investors receive only the principal and interest, with a portion of the previously received penalty possibly clawed-back. This incentivizes investors to actively encourage the issuer to achieve its ESG goals.

Furthermore, managers of such funds or key employees of investors involved in SLCs should be remunerated based on improvements in the ESG performance of issuers. This ensures a robust alignment of incentives between issuers and fund managers or investors engaged in SLCs, thus incentivizing the enhancement of ESG performance. Government or pension funds, as beneficiaries of the funds investing in SLCs, may task their asset managers with securing skilled experts capable of advising and transforming issuer management to meet ESG objectives. This could enhance the capabilities of the investors to effectively manage and influence companies towards in a more sustainable way.

3.8 Incorporating Relational Contracting Principles into the SLC Agreement

This appendix delineates the innovative incorporation of formal relational contracting principles within SLC, emphasizing the dynamic interplay between the Issuer and the Bondholders in navigating the evolving sustainability landscape. At the core of this approach is a commitment to flexibility and adaptability, allowing for periodic adjustments to ESG performance targets and the terms of the Agreement in response to external changes and advancements in sustainability practices. This ensures the Agreement's continued relevance and effectiveness over time.

Central to the relational contracting approach is the mechanism for ongoing communication, conflict resolution, and review, including semi-annual review meetings and a dedicated communication channel for ESG initiatives. Such mechanisms foster a shared understanding of progress, challenges, and strategies, reinforcing the collaborative spirit of the Agreement.

The inclusion of shared ESG goals within the Agreement highlights the alignment of interests between the Issuer and the Bondholders, promoting cooperative efforts towards sustainability. This alignment is indicative of relational contracting's emphasis on mutual benefits and joint ventures as pathways to achieving shared objectives. Furthermore, a commitment to transparency and open discussions about ESG strategies and performance is crucial for building trust and openness, foundational elements of relational contracting.

Recognizing the mutual interests and interdependence between the Issuer and the Bondholders underscores the importance of supporting each other's financial and long-term sustainability goals. This mutual commitment facilitates a partnership that is not only focused on financial returns but also on achieving significant ESG outcomes. Additionally, provisions for learning and adaptation highlight the Agreement's focus on evolution and continuous improvement, ensuring that the partnership remains dynamic and responsive to new insights and sustainability best practices.

In essence, this appendix to the Agreement encapsulates the SLC Agreement's embodiment of relational contracting principles, including flexibility, adaptability, continuous dialogue, mutual respect, and a shared commitment to sustainability. These principles ensure that the Agreement serves as a dynamic framework for fostering a sustainable and collaborative partnership, aligning financial mechanisms with the broader goals of environmental stewardship, social responsibility, and governance excellence.

4 Conclusion

This paper has introduced and explored the Sustainability-Linked Convertible (SLC) as a novel financial instrument designed to integrate ESG performance metrics directly into the finance and operation of issuing companies. Through a detailed examination of the SLC's structure, including its unique features such as conversion right, invetors' engagement rights, maturity extension options to cure missed KPIs, and comprehensive reporting requirements, this study highlights the significant contributions of the SLC towards advancing sustainable finance.

One of the key contributions of this paper is its exploration of how the SLC framework addresses the challenges of incomplete contracting in the realm of sustainable finance. By embedding reallocation of control rights, flexibility and adaptability mechanisms within the agreement, the SLC allows for periodic adjustments to the ESG performance targets and other terms,

reflecting an understanding that sustainability goals and the pathways to achieving them may evolve over time. This approach not only acknowledges the dynamic nature of sustainability challenges but also facilitates a more responsive and resilient financial structure.

Furthermore, the paper delves into the incorporation of formal relational contracting principles within the SLC agreement, emphasizing the role of mutual financial interests, and cooperative problem-solving in achieving sustainability objectives. This relational aspect underscores the importance of trust, transparency, and shared commitment between issuers and bondholders, moving beyond traditional transactional relationships to foster a collaborative partnership aimed at achieving long-term sustainability goals.

Additionally, the study showcases the SLC's integration of financial engineering techniques with ESG performance metrics, offering a compelling case for how derivatives can be designed to directly support and incentivize sustainability initiatives. This integration not only bridges the gap between financial performance and sustainability outcomes but also sets a new benchmark for the design of financial products that can drive meaningful progress towards sustainability targets.

In conclusion, the Sustainability-Linked Convertible advances sustainable finance, offering a promising template for future financial instruments that seek to align investor returns with environmental and social impact. By addressing incomplete contracting challenges, incorporating formal relational contracting principles, and innovatively integrating financial engineering with ESG metrics, the SLC exemplifies how financial markets can play a crucial role in driving the transition towards a more sustainable and equitable economy. The insights gained from this study contribute to the broader discourse on sustainable finance and provide valuable guidance for practitioners and scholars seeking to develop financial solutions that genuinely contribute to sustainability objectives.

References

Aghion, P., & Bolton, P. (1992). An incomplete contracts approach to financial contracting. *The review of economic Studies*, *59*(3), 473–494.

Aleszczyk, A., Loumioti, M., & Serafeim, G. (2022). The issuance and design of sustainability-linked loans. *Available at SSRN 4287295*.

Antonio, K., De Spiegeleer, J., Schoutens, W., & Verschueren, E. (2021). The skin-in-the-game bond: A novel sustainable capital instrument. *Available at SSRN 3827001*.

Baldi, F., & Pandimiglio, A. (2022). The role of esg scoring and greenwashing risk in explaining the yields of green bonds: A conceptual framework and an econometric analysis. *Global Finance Journal*, *52*, 100711.

Barbalau, A., & Zeni, F. (2022). The optimal design of green securities. *Available at SSRN 4155721*.

Becht, M., Bolton, P., & Röell, A. (2003). Corporate governance and control. In *Handbook of the economics of finance* (pp. 1–109, Vol. 1). Elsevier.

Berrada, T., Engelhardt, L., Gibson, R., & Krueger, P. (2022). The economics of sustainability linked bonds. *Swiss Finance Institute Research Paper*, (22-26).

Carrizosa, R., & Ghosh, A. A. (2022). Sustainability-linked loan contracting. *Available at SSRN 4103883*.

Dewatripont, M., & Tirole, J. (1994). A theory of debt and equity: Diversity of securities and manager-shareholder congruence. *The quarterly journal of economics*, *109*(4), 1027–1054.

Flammer, C. (2021). Corporate green bonds. *Journal of financial economics*, *142*(2), 499–516.

Frydlinger, D., Hart, O., & Vitasek, K. (2019). A new approach to contracts: How to build better long-term strategic partnerships. *Harvard Business Review*, *97*(5), 116–126.

Grossman, S. J., & Hart, O. D. (1986). The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of political economy*, *94*(4), 691–719.

Hachenberg, B., & Schiereck, D. (2018). Are green bonds priced differently from conventional bonds? *Journal of Asset Management*, *19*, 371–383.

Hart, O. (2017). Incomplete contracts and control. *American Economic Review*, *107*(7), 1731–1752.

Hart, O., & Moore, J. (1988). Incomplete contracts and renegotiation. *Econometrica: Journal of the Econometric Society*, 755–785.

Holmström, B. (1979). Moral hazard and observability. *The Bell journal of economics*, 74–91.

Jones, R., Baker, T., Huet, K., Murphy, L., & Lewis, N. (2020). Treating ecological deficit with debt: The practical and political concerns with green bonds. *Geoforum*, *114*, 49–58.

Kaplan, S. N., & Strömberg, P. (2003). Financial contracting theory meets the real world: An empirical analysis of venture capital contracts. *The review of economic studies*, *70*(2), 281–315.

Kim, S., Kumar, N., Lee, J., & Oh, J. (2022). Esg lending. *Proceedings of Paris December 2021 Finance Meeting EUROFIDAI-ESSEC, European Corporate Governance Institute–Finance Working Paper*, (817).

Kim, S., Lee, G., & Kang, H.-G. (2021). Risk management and corporate social responsibility. *Strategic Management Journal*, *42*(1), 202–230.

Kölbel, J. F., & Lambillon, A.-P. (2022). Who pays for sustainability? an analysis of sustainability-linked bonds. *An Analysis of Sustainability-Linked Bonds (January 12, 2022). Swiss Finance Institute Research Paper*, (23-07).

Macaulay, S. (2018). Non-contractual relations in business: A preliminary study. In *The sociology of economic life* (pp. 198–212). Routledge.

Macaulay, S. (2020). *An empirical view of contract*. Springer.

Netter, J., Poulsen, A., & Stegemoller, M. (2009). The rise of corporate governance in corporate control research. *Journal of Corporate Finance*, *15*(1), 1–9.

Shi, X., Ma, J., Jiang, A., Wei, S., & Yue, L. (2023). Green bonds: Green investments or greenwashing? *International Review of Financial Analysis*, *90*, 102850.

Shin, D. (2021). *Corporate esg profiles, matching, and the cost of bank loans*. University of Washington.

Tang, D. Y., & Zhang, Y. (2020). Do shareholders benefit from green bonds? *Journal of Corporate Finance*, *61*, 101427.

Ul Haq, I., & Doumbia, D. (2022). Structural loopholes in sustainability-linked bonds. *Djeneba, Structural Loopholes in Sustainability-Linked Bonds (April 29, 2022).*