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THE ROLE OF SUSTAINABLE FINANCE IN THE CIRCULAR TRANSITION

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Abstract:
This article aims to analyze the role of finance in accelerating the transition to a circular economy (CE). The transition requires long-term sustainable growth, which focuses on regenerative models with the help of new and efficient financial instruments.
The methodology involves a thorough examination of the relevant literature, which considers the tracking of investments, bonds and ESG criteria, which are circumscribed to the green economy. The research results highlight the ability of these instruments to capture financial resources that are currently not properly exploited, but which can bring great ecological and social benefits.
The article also highlights the inconsistencies between economic reality, fiscal and environmental policies, as well as sustainable development objectives, which result in the presence of these deficiencies. At the same time, there is a gap between what should be done, what can be done and what is actually done in partnership between the public and private sectors in the field of environmental finance. The conclusions of the article draw attention to the need to align financing with sustainable development goals.

Keywords: sustainable finance, circular economy, green investments, ESG criteria, sustainable growth
JEL Classification: Q01, Q23, Q56

Introduction

There is a growing awareness worldwide for the environment, for combating extreme climate phenomena, for sustainable development and society. Thus, some organizations adopt elements of corporate social responsibility (CSR) based on compliance with environmental, social and governance (ESG) criteria that allow companies to evaluate in addition to financial performance, sustainability and ethical practices (Ortas, Alvarez, and Garayar, 2015). To support projects such as clean energy, economic and social prosperity, waste management, improving the economic circularity process, etc. within the framework of ESG criteria, often the most used instruments are green investments (green bonds, mutual funds and shares) and sustainable bonds. ESG criteria aim to achieve the environmental - social - governance trinomial at the company level, more precisely a real empathy for the environment and frugality in the exploitation of resources (energy, waste reduction and reintegration, nature conservation), protecting the health and well-being of employees, customers, suppliers and the community, but also responsibility and decision-making transparency. If social bonds have a

wider scope, in terms of the typology of financed projects, green bonds focus more on strictly environmental projects.

In recent years, there has been an increasing interest from institutional investors and financial institutions in aligning their portfolios with sustainability objectives. This shift is driven not only by ethical considerations but also by the growing understanding that long-term value creation is closely tied to environmental and social performance. However, despite the promising outlook, significant barriers remain. These include inconsistent reporting standards across jurisdictions, limited access to reliable non-financial data, and the lack of a unified taxonomy to clearly define what constitutes a "sustainable" or "circular" investment.

The transition to a circular economy requires a rethinking of traditional risk assessment models. Financial institutions must adapt their evaluation frameworks to better capture long-term systemic risks such as resource scarcity, climate-related disruptions, and supply chain volatility. This entails incorporating lifecycle thinking and circularity metrics into investment analysis, which is still at an early stage of development in most financial markets.

To accelerate progress, it is crucial that regulators, financial actors, and industry stakeholders collaborate in developing clearer guidelines, incentives, and monitoring mechanisms. Building investor confidence in circular economy models depends heavily on transparency, accountability, and the demonstration of tangible impact. Ultimately, sustainable finance is not just about channelling funds, it is about reshaping the financial system to support a resilient, inclusive, and environmentally responsible economy.

Literature review

The specialized literature emphasizes the importance of collaboration in sustainability governance for effective collaboration and an increase in the capacities of stakeholders (shareholders, owners, employees, suppliers and customers, etc.) to work together through collaboration and coordination to increase the effectiveness of their interactions and interventions in order to achieve the company's objectives often through a responsible ownership strategy capable of clearly expressing their will and roles in promoting long-term strategic focus for good governance to achieve environmental and social objectives (Forbes and Milliken, 1999; Poteete et al., 2010 ; Ertimur et al., 2010; Stout, 2012; Mayer, 2013; Briscoe and Gupta, 2016; Schoon and Cox, 2018; Sikka and Stittle, 2019; Jonsdottir et al., 2020; Jonsdottir et al., 2021).This has become particularly pronounced amid financial crises (e.g. 2008, the 2020 pandemic crisis and the Ukraine war energy crisis), which have distorted business models and led shareholders towards increased responsibility in building healthy long-term businesses, strengthening good relationships with stakeholders, reducing financial interests that exclusively and at any cost maximize profit, and complying with corporate social responsibility (ESG) criteria to the best of their ability, including improving the public image of the targeted companies and their reputation (Russo and Perrini, 2010; Bolton and Samama, 2013; Kocmanova and Simberova, 2014; Bolívar, et al., 2015; Friede, et al., 2015; Hart and Zingales, 2017; Syed, 2017; Thakor and Quinn, 2018; Thomsenet al., 2018; García-Sanchez et al., 2020).

In terms of instruments, equities seem more favored in influencing a company's environmental and sustainability policy than bonds, including sustainable bonds and green bonds. However, a positive ESG assessment can lead to lower interest rate spreads and better prices for corporate bonds, boost business performance in the medium and long term, and lead to a much lower cost of debt, better visibility and more valuable company (Klock et al., 2005; Schneider, 2011; Attig et al., 2013; Polbennikov et al., 2016; Hanson et asl., 2017; Karpf and Mandel, 2017; Wilkins, 2017; Flammer, 2018; Zerbib, 2019;Maltais and Nykvist, 2020; Jonsdottir et al., 2021).

In this context, the specialized literature emphasizes the importance of organizational culture in promoting sustainability, highlighting the role of green leadership and ecological organizational

culture in improving employee performance and well-being, which contributes to corporate sustainability (Widjanarko et al., 2025). Recent studies also show that 88% of companies view sustainability as an opportunity for long-term value creation and over 80% can measure the return on investment in sustainability-related projects (Morgan Stanley, 2025). This approach is also supported by investors who demand measurable progress in areas such as climate action and workforce management (Harvard Law School, 2025). Furthermore, the integration of digital technologies and generative artificial intelligence into ESG strategies can enhance corporate performance in sustainability (Cui, 2025). Thus, sustainable governance becomes essential not only for compliance but also for strengthening long-term competitive advantage.

Methodology

From a methodological perspective, we turned to the literature in which researchers evaluate how green investments and sustainable bonds can improve ESG implementation at the company level, qualitatively analyzing the data and literature. The focus is on evaluating how financial instruments such as green investments and sustainable bonds contribute to the implementation and enhancement of Environmental, Social, and Governance (ESG) criteria at the corporate level.

The research process involved systematically collecting and analyzing secondary data from peer-reviewed articles, institutional reports, and case studies published between 2010 and 2025, with particular emphasis on the most recent developments (2024–2025). Key sources include empirical studies on the impact of green leadership, organizational culture, and ESG-driven financial strategies on corporate sustainability performance.

Data synthesis was performed through thematic content analysis, identifying patterns and insights related to the effectiveness, challenges, and opportunities of using green financial instruments to foster sustainable governance and long-term value creation. Particular attention was paid to the interaction between corporate culture, stakeholder engagement, and investor demands, as highlighted in the literature.

The qualitative nature of the analysis allows for a nuanced understanding of complex, multi-dimensional processes involved in aligning financial strategies with circular economy goals and sustainability frameworks. Limitations related to the reliance on secondary data are acknowledged, with recommendations for future empirical research to validate and expand upon the findings.

Results

The results highlight the importance of public-private partnerships to ensure coherence between financial policies and circular economy objectives. In the absence of coordinated collaboration, the mobilization of sustainable capital remains fragmented and insufficient to address systemic environmental challenges.

Recent global crises: the 2008 financial crisis, the COVID-19 pandemic crisis and the energy crisis generated by the war in Ukraine, have also led to a stronger orientation of investors and shareholders towards long-term resilience, ethical governance and compliance with ESG criteria.

Table 1. Statistical Data on Sustainable Finance and the Circular Economy

Indicator / Metric	Value / Trend	Sources
Global ESG assets under management (projected)	USD 33.9 trillion by 2024 (from ~USD 18.4 trillion in 2021)	Morningstar, Bloomberg Intelligence, Global Sustainable Investment Alliance (GSIA)
Share of green bonds in total EU-issued bonds	6.9% in 2024 (vs. 5.3% in 2023)	European Commission, Eurostat, Climate Bonds Initiative (CBI)

Corporate green bonds in the EU	~12.8% of total corporate bonds in 2024 (vs. ~5.6% in 2020)	ESMA, Climate Bonds Initiative,
Sovereign green bonds in the EU	4.2% in 2024 (peak: 6.1% in 2022)	Climate Bonds Initiative
Global sustainable bond market (GSS+) size	USD 5.1 trillion cumulative (H1 2024); USD 385.1B green bonds	Bloomberg Intelligence
Estimated global green bond issuance (2024)	USD 622 billion	European Commission
Forecasted global green bond market size (2033)	USD 1.56 trillion	Moody's, S&P Global, Climate Bonds Initiative
Circular economy financing needs in the EU	EUR 55 billion annually	Ellen MacArthur Foundation, European Investment Bank (EIB)
European Investment Bank lending to circular economy projects	EUR 3.8 billion in total	European Investment Bank (EIB), annual reports

Sources: Data compiled from: Morningstar, Bloomberg Intelligence, GSIA, European Commission, Eurostat, Climate Bonds Initiative, ESMA, EIB, Ellen MacArthur Foundation, Moody's, S&P Global (2024).

The data highlights that within corporate governance, there is a growing emphasis on sustainable instruments, especially bonds. This is reflected in the non-financial reporting that is required of companies to harmonize economic and social requirements with environmental ones, requiring new standards or revisions of existing ones. For this reason, the financial instruments used must be upgraded in order to achieve their purpose and potential for which they were created.

Table 2. Evolution of ESG Regulations and Market Penetration (2020–2025)

Indicator / Region	**2020**	**2023**	**2025 (est.)**
Number of countries with mandatory ESG reporting	14	27	35+
Share of EU-listed companies under CSRD	–	~50%	>75%
Global share of ESG funds in total AUM	22%	33%	~40%
ESG-related shareholder resolutions (US/EU avg.)	423	612	>700
Companies integrating circularity KPIs	<10%	21%	~35%

Sources: European Commission, Ellen MacArthur Foundation, Deloitte, McKinsey

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Current trends show that financial sustainability is no longer a particular, non-conformist, isolated focus, but is becoming part of a global phenomenon, a valuable structural component of the global financial ecosystem. Thus, the requirements of non-financial ESG reporting become necessary not only for investors but also for other institutional bodies and actors, including sovereign funds, rating agencies, insurers. This structural change is making the transition from voluntary to mandatory compliance with regulations such as the Sustainable Finance Disclosure Regulation (SFDR) and the EU Corporate Sustainability Reporting Directive (CSRD).

Case Insight: Capital Allocation Gaps in the Circular Economy

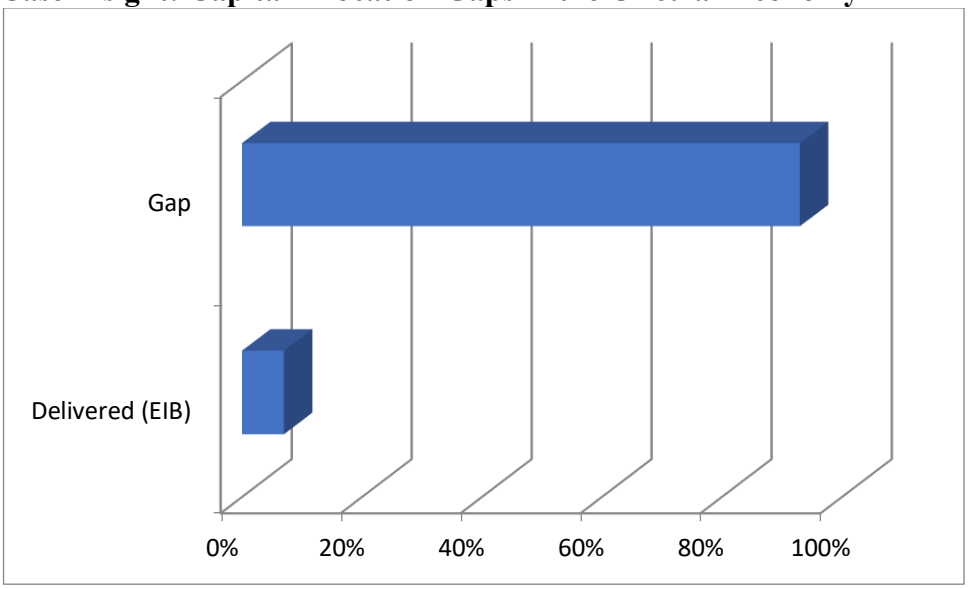

Figure 1. Estimated Annual Gap in Circular Economy Financing (EU, 2024)
Source: Author's calculation based on EIB data and EU Commission estimates.

The data reveals that the transformation is not only quantitative, but also qualitative, with companies including the implementation of environmental, sustainable objectives in financial planning, beyond the linear model of resource management.

From a sectoral perspective, the most significant developments have been observed in the energy, construction, and manufacturing industries, where ESG integration is closely tied to decarbonization roadmaps. Financial institutions and pension funds are progressively channelling capital towards green infrastructure and circular economy ventures, albeit at a pace still below the annual needs estimated by the European Commission (EUR 55 billion/year for the EU).

Despite the scale of green bonds, there are still numerous barriers to access to financing for circular projects. This can be seen especially at the local or micro level, with small companies and local authorities being discriminated against in relation to large companies or the state at the national level in terms of financing. The current model still prioritizes classic, traditional financing, and not green financing, although there is more permissiveness and openness for it. This is reflected in the data held by the European Investment Bank (EIB), in which only a little over 6% represent circular economy projects (Figure 1). In Figure 1, for 2024, it can be seen that there is a significant financing deficit in the field of circular economy from the European Union. This aspect, especially at the EU level, implies increased collaboration from all actors involved in the transition to a green economy, in which sustainable financial investments are vital, to expand taxonomy-aligned financial instruments beyond traditional green bonds, develop dedicated frameworks for circular economy financing, facilitate blended finance models (combining grants and private capital) to reduce risk in early-stage sustainability projects, and promote capacity-building for SMEs and local actors to access green finance.

As sustainable finance continues to mature, its effectiveness will increasingly depend on institutional coordination, long-term policy predictability, and improved market accessibility. The next frontier is not merely the expansion of ESG-labelled capital, but its strategic deployment in areas where here is a need for more big and structural green change.

Conclusions

Under the auspices of a global crisis, under constant pressure for climate and climate-related social issues, the criteria imposed by non-financial reporting have been adapted and relaxed

especially for small companies and local authorities. This has recently occurred against the background of the need for stronger, more integrated systemic coordination, given that institutional actors are not equal, and green instruments can be used, innovated and refined especially by large market players. At the same time, it must be taken into account, in order to prevent environmental arbitrage, that large companies be more closely monitored in real compliance with environmental requirements in order to increasingly prevent the risk of ESG criteria laundering.

For increased effectiveness, it is necessary that the regulatory framework be strengthened, harmonized, made more flexible, monitored so as to provide real support for green investments.

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