

# The role of sustainable finance in the green transition

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## 1. INTRODUCTION

Discussions and initiatives to address socio-environmental issues have been ongoing for decades. The Kyoto Protocol, established in 1997, gave rise to the carbon credit market. In 2000, the United Nations (UN) launched the Global Compact, a platform to discuss and promote policies and practices for companies committed to sustainability and corporate social responsibility (CSR). In 2004, the UN Secretary-General Kofi Annan introduced the term environmental, social, and governance (ESG) to invite institutional investors to join the Global Compact in integrating responsible investment into the capital markets. In 2006, with UN support, the Principles for Responsible Investment (PRI) were launched, a platform to help institutional investors incorporate ESG aspects into their investment processes. In 2015, the UN established the Sustainable Development Goals (SDGs), a global agenda for building and implementing public policies to guide humanity up to 2030, and countries committed to targets for reducing greenhouse gas (GHG) emissions.

Over the past decade, ESG criteria have become increasingly important in investment decision making. The number of PRI signatories has grown from 63 financial

institutions managing US\$6.5 trillion in assets in 2006 to more than 5,000 with a total of US\$120 trillion in assets under management in 2022 (PRI, 2022). In 2020, the Global Sustainable Investment Alliance (GSIA) estimated the value of investments linked to ESG strategies at US\$35.3 trillion, representing 35.9% of total assets under management globally. Faced with this demand, corporations have been committing to sustainability goals and intensifying the disclosure of their ESG practices.

However, there are several questions about the power of sustainable investment to promote greater sustainability and shared prosperity for society as a whole (Baghat, 2022; Cornell & Damodaran, 2020). While capital can influence the behavior of companies and governments, and the logic of responsible investment and ESG seems appropriate to steer the world toward the 2030 Agenda, the green transition is complex, requires a systemic view, and investors and corporations are only some of the cogs in the wheel to implement this change. Simplistic views may even delay the transition to more sustainable models.

The aim of this article is to discuss the ESG investment logic, challenges, and trends. Sustainable finance has been

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gaining prominence in the academic literature, driven by the growing awareness of the need for a green transition: migration from a linear economy based on fossil fuels

and high social inequality to a circular economy that is carbon neutral and socially fairer. It is a promising area for new research.

## 2. THE LOGIC BEHIND SUSTAINABLE INVESTMENT

By becoming a PRI signatory, the institutional investor recognizes that it has a fiduciary duty to act in the best long-term interests of its beneficiaries and that ESG issues can affect the performance of investment portfolios to varying degrees across companies, sectors, regions, asset classes, and over time. It also recognizes that the application of the PRI aligns investors with the broader goals of society. They commit to six principles (PRI, 2022): 1) to incorporate ESG issues into investment analysis and decision-making processes; 2) to be active owners and incorporate ESG issues into ownership policies and practices; 3) to seek appropriate disclosure on ESG issues from the entities in which they invest; 4) to promote the acceptance and implementation of the PRI in the investment industry; 5) to work together to improve the effectiveness of the implementation of the PRI; 6) to report on activities and progress in implementing the PRI.

Institutional investors can be divided into two groups: asset owners and asset managers. Asset owners are pension funds, sovereign funds, wealth managers, and family offices that manage billions of dollars of investors' money; they allocate this capital across various asset classes according to the risk, return, and liquidity preferences of their beneficiaries. The classes are fixed income, variable income, hedge funds, illiquid [private equity, venture capital (VC), real estate, infrastructure, legal claims], and other (tokens, cryptocurrencies). Rather than investing directly in debt securities and company shares, they invest through asset managers who specialize in one or more asset classes and offer passive products and funds that track an index or benchmark, or active funds that seek a higher return than the market.

Asset owners are under pressure from governments, society, and beneficiaries to integrate ESG into investment decisions. They are demanding that asset managers incorporate ESG aspects into ownership policies and practices, and disclose how they are implementing them and the progress they are making. In this way, asset managers are incentivized to invest sustainably in order to avoid being overlooked by asset owners. In addition to risk, return, and liquidity considerations, they are beginning to incorporate ESG considerations into the

selection and holding of debt and equity securities in the funds and other products they manage. Companies, in turn, are being pressured by these managers to commit to socio-environmental improvement goals and to publish sustainability reports to avoid difficulties in raising capital. These publications increase the transparency of the system.

Information providers such as Bloomberg, Morgan Stanley Capital International (MSCI), Morningstar, and Standard & Poor's (S&P) review the reports from companies and institutional investors, perform analyses, and issue ESG scores for companies and funds and ESG indices. These analyses, scores, and indices are used by institutional investors to make investment decisions.

Sustainable investments include financial products or investment strategies that follow one or a set of the following strategies (GSIA, 2021):

1. Standards-based screening – Selecting investments based on minimum standards of business or issuer practices based on international standards such as those issued by the UN, the International Labor Organization (ILO), and the Organization for Economic Cooperation and Development (OECD);
2. Negative or exclusionary screening – Excluding certain sectors, companies, countries, or other issuers from a fund or portfolio based on activities deemed unsuitable for investment. Exclusion criteria are based on norms and values and may relate, for example, to product categories (e.g. weapons, tobacco), business practices (e.g. animal testing, human rights violations, corruption), or controversies;
3. Positive or best-in-class screening – Investing in sectors, companies, or projects selected for positive ESG performance relative to industry peers and that achieve a rating above a defined threshold;
4. ESG integration – The systematic and explicit inclusion of ESG factors into the financial analysis of investment managers;
5. Corporate engagement – Using shareholder power to influence corporate behavior based on comprehensive ESG guidelines, whether through direct engagement

- (e.g. communication with senior management and/or the board of directors), presenting or co-presenting shareholder proposals, or proxy voting;
6. Thematic sustainability investing – Investing in themes or assets that specifically contribute to sustainable solutions (e.g. sustainable agriculture, green buildings, lower carbon portfolios, gender equality, diversity);
  7. a) Impact investing – Investing to achieve positive socio-environmental impacts. This requires measurement and reporting of impacts, demonstrating the investor's intent and that of the underlying asset/investment, as well as the investor's contribution;
  7. b) Community investing – Capital is directed specifically to traditionally underserved individuals or communities, or to finance businesses with a clear social or environmental purpose. Although it overlaps with impact investing, community investing is broader

and includes other forms of investment and targeted lending activities.

The logic of the responsible investor's role in promoting socio-environmental benefits for society seems quite coherent. Through ESG integration and/or screening strategies, companies with the best CSR practices are rewarded and those with the worst practices are penalized. In this way, the demand for assets with high (lower) ESG scores increases (decreases), leading to a reduction (increase) in the cost of capital for companies with better (worse) practices. Through corporate engagement strategies, investors can influence companies' top management and board members to implement better practices and fund the projects and initiatives needed for the transition. Through thematic, impact, and community investing strategies, it is possible to direct resources to fund ESG projects and goals.

### 3. LACK OF CONSENSUS ON MATERIALITY

Companies use the concept of materiality to guide the process of strategic sustainability planning. An issue is material if the company can affect or be affected by it, and/or if it influences stakeholder assessments and decisions. Materiality varies across industries and strategies. For example, carbon emissions are much more material for an oil and gas company than for a bank. Human rights are more material for a company that uses cheap labor from developing countries than for a company that uses highly skilled labor in a developed country (Eccles & Serafeim, 2013).

The number of companies reporting on ESG aspects has increased, but the quality of the information is still low, there is a lack of relevant information, there are different standards for ESG reporting (GRI, SAASB, TCFD, CDP), and there is no consensus on what is material (Matos, 2020). Khan et al. (2016) found evidence that companies with better CSR in material aspects according to the Sustainability Accounting Standards Board (SASB) materiality map have better returns than those with worse practices, but the same does not occur for non-material aspects, reflecting that the financial market prices material aspects. They also found that the total ESG score of MSCI, the main provider of sustainability ratings, does not accurately reflect the strengths and concerns in the items considered material by the SASB, and that the variability in total ESG scores is mainly explained by non-material aspects.

There is a high degree of dispersion among the sustainability scores of the main providers. Berg et al. (2022) observed that the average correlation between the ESG ratings of the main providers is 0.54 and that the intersection of the 186 companies ranked in the top quintile of all providers comprises only 8.15% of the total sample. According to the authors, the main driver of divergence is measurement (how the attribute is measured), followed by divergence in scope (the set of attributes describing the company's E, S, or G performance). Divergence in weighting (attribute weights in the aggregation of the score) is much less important. This wide dispersion between ratings indicates that companies are receiving ambiguous signals about what the market values as sustainable practice and how best to report it. The lack of consensus gives rise to greenwashing – companies increasing their ESG ratings without improving practices in material items, or with only cosmetic improvements.

The search for standardization of the ESG taxonomy is very important to reduce the dispersion of ratings and to better incorporate sustainable practices into the value of companies. Although this journey is long, it has already begun. In June 2023, the International Sustainability Standards Board (ISSB), created by the International Financial Reporting Standards Foundation (IFRS Foundation), launched the first global sustainability reporting standard (IFRS S1 and IFRS S2) with the aim of integrating it into financial reporting. It is due to

come into force on January 1, 2024, and is supported by several countries that are expected to adopt it, most likely making disclosure of ESG aspects mandatory (Viri, 2023). Many draw parallels between the evolution of sustainability reporting standards and that of financial reporting standards, which began decades ago.

However, even as the consensus on what is material and the quality of measurements of ESG attributes improve, there will continue to be divergences in classifications. Sustainability is a process, not a state. Solving today's problems, such as decarbonizing the economy, will create new problems for future generations

to solve. For example, what will be done with all the wind turbine blades, solar panels, and electric batteries that will have to be disposed of at the end of their useful life, or the carbon dioxide that has been stored in caves so as not to increase GHG emissions? Therefore, the concern with producing quality information for sustainability reports and interpreting that data should not overshadow the importance of investigating the process, i.e., how sustainability is embedded in the culture of companies, how problems and solutions are identified, and what projects are in place to address problems and opportunities.

#### 4. SCREENING STRATEGIES AND THE PROMISE OF SUPERIOR RETURNS FOR ESG PRODUCTS

Several managers are launching ESG funds and exchange traded funds (ETFs) composed of securities of companies with high sustainability scores, promising superior returns – “do well by doing good” (Matos, 2020). However, ESG products are consistent with a risk mitigation strategy and not with a promise of higher returns. Greater CSR should help reduce various types of risk, such as regulatory, supply chain, product and technology, and reputational (Gillan et al., 2021). Risk mitigation strategies are consistent with institutional investors' fiduciary responsibility to long-term beneficiaries.

Several articles show that companies with greater CSR have lower systematic risk (Gillan et al., 2021). Bénabou and Tirole (2010) observe that companies with greater ESG proposals are more resilient in times of crisis, while Albuquerque et al. (2019) propose and find evidence that better CSR practices lead to lower product-income elasticity due to product differentiation. Other articles relate credit risk to CSR (Capasso et al., 2020; Gillan et al., 2021; Zeidan & Onabulu, 2023). Apergis et al. (2022) and Seltzer et al. (2022) provide evidence that credit risk and corporate bond spreads are negatively related to ESG score, especially for environmental risk and in places where environmental regulations are stricter.

Using a theoretical model, Pástor et al. (2021) show that green investments in equilibrium act as a hedge against climate risk, reducing systematic risk and the investor's return requirement. The lower the investor's return requirement, the lower the cost of capital for the firm. This is consistent with more sustainable companies being rewarded by investors and those with poorer CSR being penalized. However, lower expected returns for investors are not consistent with the promise of higher returns

for ESG investments. Hong and Kaperczyk (2009) find empirical evidence to this effect: “sin” stocks (companies in the beverage, tobacco, and gambling segments) have higher returns than comparable-risk stocks from other sectors because they are less covered by analysts, are overlooked by investors subject to investment rules, and face higher litigation risks.

However, the article widely cited by the PRI, written by Friede et al. (2015), shows that most of the evidence in academic studies is in favor of “do well by doing good.” The authors carried out a meta-analysis of 60 literature reviews involving more than 2,200 studies. They observed that 90% of the studies found a non-negative relationship between ESG and return, with 63% of the reviews finding a positive correlation. However, Matos (2020) raises several problems with this analysis, as it does not discuss factors that could influence the results, such as which CSR/ESG aspects were measured, which time horizon was considered and which country was analyzed, the comparison methods, and causality.

As the consensus on good ESG and CSR practices is still evolving and the market is learning about them, gains above the risk-return equilibrium can be explained by inefficiencies. It is possible that investors underestimate the benefits of ESG factors, so companies with more sustainable models surprise with higher than expected cash flows. Many CSR benefits are intangible and not captured by net present value (NPV), or there is a lot of uncertainty about when and how much they will be realized (Adams, 2020). As society places a higher value on green models and countries tax and penalize less sustainable models, the green premium will decrease, the clarity about the benefits will increase, and it will be better reflected in security prices.



Society is also changing, and this change in turn can generate higher returns. The proportion of investors who prefer more sustainable models for non-financial reasons has increased over time, and the prices of securities of more sustainable companies reflect this transition. Gibson et al. (2018) analyze that the positive effects on the portfolios of 13F institutions [a report required by the Securities and Exchange Commission (SEC) for investors with more than US\$100 million in assets under management (AUM)] are concentrated in the environmental pillar and in more recent periods, and that the superior performance is explained by the growing preference for sustainable investments over time and the positive pressure on the price of stocks with good environmental scores. Pástor et al. (2022) found that green securities (German green bonds and US green stocks) outperformed non-green securities, but that this outperformance was explained by an unexpected increase in environmental concerns. As more investors prefer sustainable models for reasons other than purely financial, sustainable practices will be better reflected in the cost of capital.

From this discussion it can be concluded that the way to make money from sustainability in equilibrium markets is to invest in companies with processes for improvement of socio-environmental problems, and to maintain the position while they improve their CSR. There will be an increase in the company's value through the reduction in socio-environmental risk, resulting in a higher return for the investor. Sverner et al. (2023) found that buying the shares of S&P 500 companies with the biggest ESG rating increases and selling those with the

worst generated a monthly return of between 0.23 and 0.35% p.m., controlling for various risk factors. This is consistent with corporate engagement strategies in which activist managers put pressure on the company's board and top management to improve CSR practices. It is also in line with investments in private equity funds that identify ESG problems and opportunities during due diligence, improve CSR performance by establishing governance, processes, and monitoring key performance indicators (KPIs) during the investment period (3 to 7 years), and benefit from the company's valuation at the time of sale.

Screening is relatively easy to implement and is therefore widely used by institutional investors: 58% of the volume allocated to sustainable investments adopts some form of screening strategy, nearly double the percentage of sustainable investments that follow a corporate engagement strategy (29.76%) (GSIA, 2021). Although screening strategies reward more sustainable companies and punish less sustainable ones, they risk slowing down the transition to a carbon-neutral global economy. If the big polluters, such as petrochemicals, oil and gas, steel and mining, aviation and transport, do not migrate to low-carbon models, there will be no decarbonization of the world. These processes require huge investments in capital-intensive technologies. There is evidence that these companies have a below-average score, are overlooked by investors, have fewer banks in their ownership, and consequently have a higher cost of capital (Borghesi et al., 2015; Fard et al., 2020). Raising the cost of capital for controversial but important companies in today's economy may hinder the green transition.

## 5. THE NEED FOR COLLABORATION BETWEEN DIFFERENT ACTORS TO PROMOTE THE GREEN TRANSITION

The cost of decarbonizing the global economy is significant: the McKinsey Global Institute (2022) estimated it at US\$375 trillion over the period from 2021 to 2050. The financial market has great potential to contribute financial resources, but thematic and impact/community investments that directly or indirectly finance ESG projects still represent a small portion of sustainable investments. The volume of resources allocated to thematic investments, such as sustainability-linked loans, green bonds, and funds targeting socio-environmental issues, increased by 91% between 2018 and 2020, but represented only 5.5% of the total allocated to sustainable investments in 2020, and community impact decreased

by 21% and represented 1% of responsible investments in 2020. Many investors are unwilling or unable to sacrifice returns for greater CSR, and some key transition projects still carry too much risk and uncertainty to attract private capital.

Financial investors and corporations are only a few pieces of the puzzle for the green transition. Collaboration among companies, universities, government funding agencies, and foundations is essential to develop basic science and technology. Governments must promote and regulate new infrastructure, GHG emission limits, and carbon credit trading. Consumers need to change their habits and value greener solutions, and penalize large

emitters who are not making the transition. Blended solutions that combine concessional and private capital are needed to multiply the capital that finances projects.

Initiatives that orchestrate partnerships and efforts, such as the Breakthrough Energy VC fund (<https://www.breakthroughenergy.org/>) and the Mission Possible

Partnership (<https://missionpossiblepartnership.org/>), are beginning to emerge, offering hope that the challenges and barriers to making this transition possible can be overcome. However, there is still much to be learned about partnership design and the need to scale up successful models.

## 6. CONCLUDING REMARKS

The green transition is just beginning, and concepts of what is sustainable and what is material, ways of measuring and reporting, and understanding the benefits and costs are evolving. Society is also changing. This creates a lot of inefficiency; on the one hand, opportunities for investors to make money with well-crafted ESG investment strategies, but on the other hand, frustration for engaged companies that are not yet getting full recognition for their efforts. Over time, better CSR and ESG practices will be better priced, and corporations that do not recognize this trend will be at a disadvantage.

Sustainable investments have great potential to promote and finance the green transition, but the percentage of volume allocated to strategies that bring more additionality is still small. Most sustainable investments are allocated

to screening, which is easier to execute, but contributes little to the green transition. More sophisticated models, such as investing in activist managers and private equity funds, are needed to drive change in companies, as well as unconventional approaches to attract more capital to finance the transition and to orchestrate collaboration among different actors. The carbon credit market is expected to grow. Blended and catalytic capital initiatives are emerging, but face significant challenges in becoming scalable models. This will create many opportunities for finance and sustainability professionals, new businesses, and challenges for corporations. The prospects for academic research are unparalleled. There is nothing like a world in transition to generate interesting and relevant problems that need to be rigorously investigated.

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