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ESG: From Process to Product

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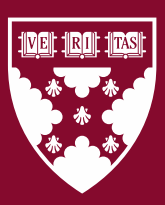

Harvard Business School

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Abstract

ESG measurement, analysis, management, and communication is a *process* that the financial industry has turned into a *product*, resulting in many investment funds using the ESG label. This has caused confusion, generating demand for a framework that defines the objectives and characteristics of ESG investment products. The main objective is to intentionally allocate capital and influence investees with measurable financial, environmental and/or social outcomes. The key characteristics are those of *intentionality* and *measurability* with the additional characteristics of *materiality* and *additionality* serving to enhance their overall significance.

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1. Introduction

ESG (Environmental, Social, and Governance) is a *process* that involves measuring relevant resources and outcomes, analyzing resource allocation to achieve optimal outcomes, managing resources to improve outcomes, and communicating resource management and outcomes to stakeholders. It can be implemented by *any* organization to align with their purpose and strategy. *All* investment managers, could adopt ESG as a *process* to the extent that the measurement and analysis of specific ESG issues, mitigates risk and identifies growth opportunities.

In recent years, the concept of ESG has evolved into a *product* with thousands of funds labeled as ESG, "a market for ESG investing." However, there are challenges in defining and measuring market size,[1] that are related to the difficulty in defining and measuring a firm's ESG performance,[2] and incentives for "cheap talk."[3] A conceptual framework for ESG investment products is needed to clarify their objectives, define key characteristics, and enable investors to have a common understanding and ask the right questions.[4]

Such a framework would be useful for asset owners, asset managers, and regulators. For asset owners, it provides guidance for the evaluation and selection of asset managers. For asset managers, it provides clarity about the actions needed to establish market credibility and alignment across employees about organizational goals. For regulators, it helps to create rules that protect investors from misleading marketing. Such a framework should be flexible and principles-based, not rules-based, given that the ESG concept is likely to evolve over time.

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[1] For example, when data provider Morningstar, revisited disclosures and tightened criteria for ESG investment products, it excluded 1,200 funds from its 'sustainable' list for European funds. Assets under management (AuM) tagged as sustainable dropped by $1.4 trillion, from $3.4 to $2.0. Source: Morningstar cuts 1,200 funds from 'sustainable' list. February 10, 2022.

[2] Rating agencies disagree significantly when they evaluate a firm's ESG efforts and outcomes (Berg, Kolbel, and Rigobon 2022). As corporate ESG disclosure has increased, ratings have diverged even further highlighting the absence of norms and rules for evaluating ESG information (Christensen, Serafeim and Sikochi 2021).

[3] The accusations relate to asset managers overstating their ESG credentials. For example, see article: DWS probes spark fears of greenwashing claims across investment industry. August 31, 2021.

[4] Regulatory interventions seeking to create labels for ESG investment products suggest the presence of a market failure in ESG investing. The European Union's (EU) Sustainable Finance Disclosure Regulation (SFDR) provides a classification of investment products based on their ESG objectives and characteristics. SFDR provides a labeling of funds in article 6, 8, and 9. Article 6 is a non-ESG fund, article 8 is "a Fund which promotes, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices," and article 9 is "a Fund that has sustainable investment as its objective or a reduction in carbon emissions as its objective." Notwithstanding these efforts, these definitions are subject to interpretation and have raised confusion among market participants. The US Securities and Exchange Commission (SEC) is also contemplating a regulatory action for investments products.

2. Types of ESG Investment Products

It is common to hear discussions surrounding why a fund's portfolio includes a company, with certain undesirable ESG characteristics. These controversies lead to the following question: can an assessment be made about whether a fund can be classified as ESG based on the portfolio holdings' ESG characteristics? To answer this question, we first need to develop a broadly applicable typology of ESG investment products.[5]

There are two fundamental types of ESG investment products: "leader" and "transition" strategies. **Table 1** provides a typology alongside characteristics that each strategy will exhibit. Within those, some apply only to public market investors while others apply to both public and private market investors. Those strategies are not necessarily mutually exclusive. Some investment funds fit exactly the description of one of those strategies while others combine elements of several of those.

Leader strategies seek to provide capital to companies with measurable superior ESG characteristics. This can happen in three ways. First, by creating a portfolio that excludes companies with inferior ESG characteristics or, similarly, by including companies with superior characteristics (i.e., "Broad ESG Leader"). This approach is often, but not exclusively, used to construct broadly diversified portfolios with low tracking errors relative to their benchmark. Portfolios can be constructed by integrating the full multidimensionality of ESG data or by focusing on a specific ESG feature (i.e., carbon emissions or workforce diversity). This latter targeted process is the second approach (i.e., "Targeted ESG Leader"). An example for the first approach is MSCI ESG Leaders index,[6] while for the second approach is MSCI Low Carbon,[7] which lowers the carbon emissions of the portfolio holdings, or RobecoSAM Global Gender Equalities Equities, which invests in companies based on diversity and human capital metrics.[8]

The third approach is by creating a portfolio of companies that provide solutions seeking to improve specific ES outcomes (i.e., "Solutions Leader"). An example is the S&P Clean Energy Index and the associated iShares ETF funds.[9] Another example is the S&P Global Water Index, which invests in companies in water utilities and infrastructure and in water equipment and

[5] The objective is not to capture every possible type but those that broadly characterize the diversity of strategies.
[6] MSCI: https://www.msci.com/msci-esg-leaders-indexes
[7] MSCI: https://www.msci.com/our-solutions/indexes/low-carbon-indexes
[8] RobecoSAM: Global Gender Equalities Equities.
[9] S&P Clean Energy Index: https://www.spglobal.com/spdji/en/indices/esg/sp-global-clean-energy-index/#overview

materials companies. Both funds have more concentrated portfolios than what is frequently found in the first two approaches and larger tracking errors relative to their benchmark indices. Moreover, while the first two approaches apply exclusively to public markets, the third approach is widely used in private markets investing. Examples include private equity funds TPG Rise and KKR Global Impact. For example, KKR Global Impact's mission is to "To invest behind scalable, commercial solutions to solve critical global challenges."[10] Similarly, the Rise Fund "invests in companies driving measurable social and environmental impact alongside business performance and strong returns… funds work with growth-stage, high potential, mission-driven companies that have the power to change the world."[11]

What is different and common between these three approaches? **Table 1** shows that across all three approaches, the ESG characteristic in focus will be *best-in-class*. Given that all three approaches are choosing investments with leading characteristics, the rate of improvement of the characteristics is likely to be low. The first two approaches often exhibit high diversification and low tracking error compared to the third, which exhibits high concentration and tracking error. Moreover, they exhibit a primary focus on how firms operate (the "How"), principally because data availability relates more to operational ESG data rather than product-level ESG data, while the third's approach primary focus is the firm's product and services (the "What"). While in the first two approaches investment managers might engage with companies, given the level of diversification, those engagements tend to be more high level, as investment managers do not have the deep knowledge over the idiosyncratic circumstances of each company or the capabilities to deeply engage with so many companies. Therefore, the level of influence of an investor is, all else equal, higher in the third approach. Some funds that fall in the third approach could also have limited influence. Size of investment capital, ownership percentage, and active versus passive approach to ownership will all be determining factors of the level of influence.

What is the risk that each of the approaches might be exposed to a low ESG characteristic? It is relatively low in the first approach, especially if companies are not benchmarked within their industry but across the whole market. Benchmarking within industry will expose a portfolio to companies with low environmental or social (ES) outcomes because some firms are better than their peers but the whole industry might exhibit poor outcomes (Cheema-Fox et al. 2021). The

[10] KKR Global Impact: https://www.kkr.com/businesses/global-impact
[11] TPG Rise: https://therisefund.com/

latter two approaches exhibit higher headline ESG risk, defined as the probability of scoring poorly on one or more of the ESG characteristics. The second approach might have exposure to poor ESG characteristics (i.e., employee working conditions) that are not part of the ESG characteristics (i.e., carbon intensity) that the investment strategy seeks exposure. To mitigate exposure to poor ESG characteristics, some funds, such as the RobecoSAM Global Gender Equalities Equities, mentioned above, excludes the bottom-rated ESG scoring companies (in this case the bottom 20%).[12] The third approach could similarly have exposure to poor practices (i.e., weak governance) that are not prioritized in the targeted solutions (i.e., provide affordable products).

The second type, transition strategies, seeks to provide capital to companies with improving or the potential to improve their measurable ESG characteristics. There are two distinct strategies. The first strategy invests in companies that exhibit positive momentum towards better ESG characteristics (i.e., "Selection Improver"). Those strategies are choosing companies that already exhibit improvements in their ESG characteristics or they are expected to improve in the absence of investor influence. Examples of such a strategy is the Bloomberg-Rockefeller Multi-Factor ESG Improvers Index[13] and the S&P Eurozone or North America ESG-Momentum Tilted Indices.[14] As with the ESG optimization approach, they are often widely diversified portfolios and exhibit lower tracking error. Such strategies can be found in other asset classes, such as transition bonds in fixed income.[15] This strategy could also be implemented focusing on a specific ESG issue, targeting a narrower set of metrics, as is the case for the Leader strategies.

The second strategy invests in companies that could exhibit *momentum* towards better ESG characteristics, in the presence of investor engagement (i.e., "Engage to Improve"). These strategies are choosing companies with often inferior ESG characteristics and those that investors see a path for improvement through active engagement with management. As with the "Solutions Leader" strategy, they are often more concentrated portfolios and exhibit higher tracking error. An example of is Engine No. 1, which says, "We are active owners. We work with companies to understand their material impacts. We support these companies, and engage more actively where

[12] RobecoSAM: Global Gender Equalities Equities.
[13] Bloomberg-Rockefeller US All Cap Multi-factor ESG Improvers Index Methodology.
[14] S&P Global: S&P ESG-Momentum Equal Weight Indices Methodology.
[15] Transition bonds is a use of proceeds debt instrument where the proceeds fund a company's transition towards reduced environmental impact or lower carbon emissions. They are often issued by issuers that would not normally qualify for green bonds, such as high carbon-emitting companies in oil and gas or iron and steel.

needed, to drive transformation and financial results."[16] Other examples include Impactive Capital and Inclusive Capital Partners.

In contrast to the Leader strategies, Transition strategies are likely to include portfolios of companies with poor or moderate ESG characteristics, elevating ESG headline risk. While the Selection Improver approach exhibits strong ESG momentum, the Engage to Improve approach can exhibit weak ESG momentum, because investors might not be able to successfully influence companies or changing the ESG characteristics they are targeting might take multiple years.

Table 1 makes clear that the ESG characteristics of portfolio holdings will look very different based on the breadth versus depth of the focal ESG metrics and choosing a Leaders versus a Transition strategy. A further complication in characterizing an investment product as ESG based on portfolio holdings arises from the fact that, investors might not invest in a company with superior or improving ESG characteristics or a company that provides solutions to an environmental or social challenge, because they believe that the price is too high or they might invest in a company with lower or less improving ESG characteristics because they find the price to be attractive. In other words, 'value' oriented ESG investors might deviate further from what one might expect to find in an ESG portfolio when accounting solely based on ESG characteristics (Serafeim 2020).

In summary, given the diversity of approaches, it is impossible to make a judgement about whether an investor is indeed practicing ESG investing based on portfolio holdings, if one does not consider the approach adopted by the investor.

3. Conceptual Framework

3.1. Objective

I define the objective of ESG investment products as to *intentionally allocate capital and influence investees with measurable financial and environmental and/or social outcomes*.[17] This definition reflects the following logical sequence of statements: investors have the intention to practice ESG investing, expressed through the development of a set of beliefs, intended outcomes, and the development of key capabilities; to express this intention, investors allocate capital and

[16] Engine No. 1: https://engine1.com/transforming
[17] One could refer to ESG outcomes but governance is a process rather than an outcome. Therefore, I limit outcomes to the other two pillars, environmental and social.

influence investees intending for better financial and environmental, and/or social outcomes; in turn, these investments have measurable financial, and environmental and/or social outcomes. *Note that none of this is required by any investor that uses ESG as a process but does not intend to label a product as ESG or with any other associated label, such as sustainable*.

The definition emphasizes that the intention to influence investees is also part of the objective of ESG investing. A discussion is warranted around this issue. First, does this mean that only funds that have control, large ownership shares, or an activist attitude qualify as ESG investment products? Second, how does the inclusion of influence relate to the enhancing characteristic of investor additionality that is described later in the paper?

These two questions need to be considered in parallel. The definition of the objective imposes a minimum standard for qualification while the enhancing characteristic introduces "shades of ESG." Influence can take different forms and be direct or indirect. On the one extreme, direct influence happens when an investor controls the company and influences its governance, strategy, and processes. An example of that is a private equity buyout fund. On the other extreme, indirect influence happens when an investor creates an investment vehicle that might allow an investee to attract more investment through improved investor recognition influencing cost of capital and business development. An example of that is a public market ETF that classifies a company as a solutions provider increasing market recognition. While both funds qualify as ESG investment products if they have the intention to influence investees, the private equity fund has a higher level of influence and therefore additionality.

Many forms of influence will fall in between those two extremes, where they take the form of rewarding companies with higher market valuation, leveraging investor networks for business expansion, discussions with management, coordinated engagement among multiple investors, voting at the annual general meeting, and filing of shareholder proposals. Not all investors will be able to exercise high levels of influence, because the level of influence will likely increase the costs of fund operations. Therefore, cost constraints, described below, will be an important consideration.

3.2. Fundamental Characteristics

The definition above makes clear the two key qualitative characteristics of ESG investment products: intentionality and measurability.

3.2.1. Expressing Intentionality

ESG investing needs to be intentional. The verifiability of this intentionality rests on the documentation of a *well-developed set of beliefs, policies, processes, and capabilities*. The development of these can be particularly helpful in the context of ESG investing, given that many investment professionals lack awareness, knowledge, or skills for integrating ESG issues in investment decision making. This can be an impediment to the integration of ESG issues because most organizations fail to adopt new practices when employees lack the knowledge, incentives, and capabilities for the integration of such practices (Henderson 2021). Importantly this means that investment strategies and products that happen to have superior ESG characteristics but those were the outcomes of decisions that did not intend to produce those characteristics do not qualify as ESG investment products. This is an important caveat for the following reason: judging a fund from the product of its holdings and the ESG score of a holding, as it is common across several rating systems, is likely to be misleading as it does not account for intentionality.

ESG beliefs are important as they document *why* an investor is engaging in a certain activity. This in turn helps bridge the knowledge gap inside an investment organization and creates clarity and a common understanding of the drivers behind the decision to practice ESG investing. An example of clear documentation of beliefs has been provided by the Decarbonization Advisory Panel for the New York Common Retirement Fund (NYCRF).[18] Its advisory panel specified beliefs about pricing of these risks and opportunities in markets ("The Panel believes that climate change poses significant risk to the Fund's investment portfolio across equities, alternatives and credit, as most (if not all) do not currently adequately price climate-related risk"), the usefulness of established processes ("The Panel believes approaches that rely on backtesting may lead to wrong conclusions in investment decisions in light of the nature of climate change impacts"), and the potential to earn risk-adjusted returns ("The Panel believes managers and companies with deeply embedded and carefully analyzed climate-related strategies, operations, metrics, governance and incentives will outperform the market as physical risks not properly underwritten in capital markets materialize and the Transition unfolds").

Table 2 describes a common set of beliefs across all approaches but also how beliefs differ across approaches. The common beliefs underpinning ESG investing relate to the fact that the

[18] The author was a member of the six-person Panel, which received no financial compensation.

world is changing due to market and regulatory forces and those changes are making ESG issues increasingly financially material. Therefore, the collection, analysis, and valuation of ESG information and active ownership with investees are important parts of the investment process. Also, a common belief relates to the role of private capital to complement public capital and create better ES outcomes. Melior investment management's belief of "Capital markets and corporations have a central role to play in building a better, more sustainable future" is an example.[19]

Broad and Targeted Leader strategies have the belief that ESG laggards expose the portfolio to future risks while the Solutions Leader strategy have the belief that solutions companies expose the portfolio to future growth. Across approaches, there are significant differences in beliefs. For example, Leader approaches have the embedded belief that leadership is more static while Transition approaches view leadership as more fluid. Moreover, they hold the belief that ESG leaders will be priced at a valuation multiple premium and that this premium will be persistent or even expanding over time, as ESG issues increase in importance due to market, technological, and policy changes. Consequently, Transition strategies focus on market valuation improvements because of changes in ESG characteristics.

Beliefs related to ESG characteristics also share commonalities but also have differences across the approaches. Broad and Targeted ESG Leader strategies hold the belief that leaders will scale up and therefore the characteristics of the market will improve on a size-weighted base, due to a larger part of the market exhibiting leading ESG characteristics. Moreover, the exclusion of organizations with poor ESG characteristics provides a signal to ESG laggards about investor preferences and incentivizes them to improve. Similarly, for Solutions Leader, the signal indicates the support to companies providing more solutions for ES outcomes. Selection Improver holds beliefs that supporting ESG improvers signals preferences and incentivizes both companies that have made advancements to keep improving but also laggards to start improving. Engage to Improve holds the belief that active engagement can lead to improved ESG characteristics and that active engagement signals to other laggards the need to improve. Melior's beliefs again represent an example, "By investing for the longer term and engaging actively with management, we can influence companies to make positive changes that help deliver sustainable returns."[20]

[19] Melior: Beliefs.
[20] Ibid.

Development of ESG policies and processes operationalize the beliefs throughout the investment process and define the *how*. For example, the importance of incorporating in the due diligence process transition and physical risks from climate change, requires the measurement and analysis of those risks using new data and a process for debating the information that can be distilled from the data as part of the investment or risk committee process. Development of ESG-related capabilities inside the investment team to understand ESG issues is also an important building block of documenting intentionality. This can be documented through the education of investment team members. Several programs and resources now exist for this education offered by not-for-profit organizations (e.g., CFA Institute), stock exchanges, and educational institutions around the world. Some investment firms have also developed their own internal proprietary educational programs to equip their team members.

Table 2 presents for the different approaches a set of key capabilities. The more widely diversified strategies need scalable, comparable, reliable, and relevant ESG data. Moreover, they require skills on the analysis of the data and the potential valuation consequences that a broad or targeted set of ESG risks have on a large set of organizations. The Solutions Leader approach rests on key capabilities that relate more to the analysis and valuation of market dynamics, technologies, policy changes, and business models for targeted solutions. In addition, it relies on the development of reputation, networks, and expertise in targeted solutions. The Engage to Improve approach requires a distinct set of capabilities. Those relate to identification of key weaknesses through analysis and valuation of ESG characteristics in a competitive environment and skills to engage and influence the management and governance of organizations.

3.2.2. Dimensions of Measurement

ESG investment products need to have measurable financial and environmental and/or social outcomes in line with the outcomes they are targeting as part of the objective. Investment strategies and products that have no way of measuring outcomes from ESG investing activities do not qualify as ESG investment products as they are not verifiable. In the absence of verifiable outcomes there is no accountability as there is no way for anyone to differentiate between an ESG and non-ESG investor.

The first step in the process of measurement is defining *what* are the relevant outcomes and thereby the key data that need to be tracked and collected. There is a well-established measurement

technology for the tracking of financial outcomes, although these technologies are far from perfect (Kaplan and Norton 1992; Phalippou 2020). This includes the measurement of financial return metrics that are market based, such as stock returns, or accounting based, such as IRRs, profits, and revenues. Similarly, the measurement of financial risk is also well developed, albeit also imperfect, through the calculation of standard deviation of returns, systematic risk reflected in equity beta, portfolio drawdown, leverage, and interest coverage ratios.

The measurement technologies for ES outcomes are far less developed.[21] Moreover because outcomes take more time to develop, many investors measure inputs, activities that intend to produce outcomes, instead of outcomes.[22] For example, investors measure the extent that companies have policies, targets, or make disclosures around certain ESG characteristics (Christensen et al. 2021). Of course, such inputs could lead to outcomes in the future. For example, adopting a policy to procure materials from suppliers with certain environmental standards or setting a target to lower carbon emissions from operations (inputs) might lead in the future to lower carbon emissions in the supply chain and in a firm's operations (outcomes). But this is not a guaranteed cause and effect relation for two primary reasons; ineffectiveness and 'cheap talk.' First, some inputs will be ineffective in producing the outcome even if an organization spends significant amount of effort. Second, some inputs will never translate into real efforts as some organizations will never commit a considerable amount of effort to achieve those outcomes.

Table 2 shows that different approaches will track different outcomes. Leader strategies will focus on the level of ES outcomes relative to their benchmark. Transition strategies will focus on the improvement of ES outcomes over time, setting a minimum level of targeted rate of improvement for ES outcomes. Broad ESG strategies will focus on the breadth of ES outcomes that are likely to sacrifice depth in the measurement of outcomes, relying on proxies and metrics that are likely to be comparable across firms. Targeted ESG strategies, in contrast, will be able to provide deeper insights into ES outcomes, but those might be less broadly applicable. Solutions strategies could measure the growing revenues from solutions products and services and how those are linked to better ES outcomes. All strategies will need to measure the presence of significant

[21] I refer to ES rather than ESG outcomes because G is not an outcome but a process that could enable financial, environmental, and social outcomes.

[22] The impact management field differentiates between inputs, activities, outputs, outcomes, and impacts. I refer to outcomes broadly to include variables that reflect both outputs and outcomes while as inputs both inputs and activities.

adverse ES outcomes to provide transparency around any significant negative impacts that could neutralize the positive impacts of the portfolio.[23]

Therefore, all ESG investors should define the intended outcomes and measure them over time transparently reporting on them, so that investors understand whether the funds are delivering on their objectives. What will be measured and the trade-offs around measurement will be defined by their strategy.

3.3. Enhancing Characteristics

Alongside the two key qualitative characteristics, I define two enhancing characteristics that allow for further differentiation across investment practices. These two are materiality and investor additionality. Both characteristics can further magnify the intended outcomes but in the absence of the two key fundamental characteristics, their consideration would not qualify.

3.3.1. Materiality

ESG investment products that consider the materiality of ESG issues enhance the outcomes of ESG investing but cannot be evaluated in the absence of intentionality and measurability.

There are several reasons why materiality magnifies the outcomes of ESG investing. First, to the extent that the investor focuses on more societally material ESG issues, the ES outcomes measured will be, by construction, more important. Second, to the extent that societally material ESG issues also become financially material ESG issues such that they are more likely to be the ones that management of investees would allocate more resources towards and therefore more likely to generate scalable outcomes. While more societally important ESG issues are more likely to be financially material, because of higher probability of regulatory action, litigation, and consumers, employees, and investors responding to a firm's actions and outcomes on the focal ESG issue, not all such issues will be financially material.[24] In the presence of a 'business case,' improvement of an ES outcome is both scalable and sustainable, meaning more likely to be durable over time.

[23] This is consistent with regulatory developments in the EU that require the disclosure of Principal Adverse Impacts under the Sustainable Finance Disclosure Regulation (SFDR).

[24] At the same time less societally material ESG issues are highly unlikely to be financially material issues as the probability of regulatory, technological, market, and legal environment changes that would affect the firm are likely to be absent. Therefore, financially and societally material ESG issues are unlikely to be well represented as a Venn diagram but rather they represent concentric circles.

It is important to note that improvement of performance on a financially material ESG issue is not necessarily immediately profitable. Management will still need to make important decisions: how much to improve an environmental or social outcome, over what timeframe, and how many resources to allocate to make such improvements. Organizations will differ in the realization of right-timed cost-effective environment and social outcomes, in line with a literature that shows persistent performance and productivity differences across organizations (Syverson 2011; Bloom et al. 2012).

Table 2 shows that evidence of materiality across approaches would likely manifest in different ways. Broad Leader and Selection Improver approaches will focus on a materiality framework that prioritizes different ESG issues based on the geographic location, industry membership(s), and unique strategic choices of an organization. The construction of such a framework is challenging because it requires the prioritization of a large set of issues across a large set of organizations that they all face both systematic forces but also idiosyncratic contexts. Targeted Leader approaches will focus on a materiality framework about the targeted ESG issue and the ways that the focal issue affects financially investees. Given the narrower set of issues examined the application of a materiality analysis is somewhat easier in this context. Solutions Leader approaches will focus on how the solutions that are being prioritized are able to be scalable over time. Again, given the narrower set of issues and the concentrated nature of the portfolio, the application of materiality analysis is an easier task. Engage to Improve approaches will focus on how specific issues are societally and financially material for specific companies and the ability of an investee to change practices and achieve different outcomes.

3.3.2. Additionality

ESG investment products that consider the additionality of investor activities enhances the outcomes of ESG investing but cannot be evaluated in the absence of intentionality and measurability.

Additionality is a property of an outcome being additional, meaning it would not have happened in the absence of an activity taking place. In this case, investor activities. In the 'impact investing' space, it has been argued that most, if not all, non-concessionary investors exhibit no additionality (Brest and Born 2013), as the attractive nature of financial outcomes would attract capital either way.

However, investor additionality is unlikely to be a binary outcome, between non-concessionary and concessionary investors, but rather a continuum of outcomes.[25] This is because, some investors do not only provide capital. Rather they exercise governance rights, engage with companies on strategy and management issues, lend their credibility for business development, and mobilize networks to help companies succeed. A vast literature documents that ownership structure "matters." Ownership is correlated with investment behavior (Bushee 1998), innovation (Bernstein 2015), corporate social responsibility (Dyck et al. 2019), accounting quality (Katz 2009), corporate governance (Ferri and Sandino 2009), and a strong sense of purpose across employees (Gartenberg and Serafeim 2022).

Investors that deploy their differentiated capabilities and resources to create certain outcomes can make a stronger case that those outcomes might not have existed otherwise. This is more likely to be true in the context of private markets investing, where investors have control over the company. Their governance oversight, active involvement in choosing management, working with management towards strategy implementation, and leveraging their networks and expertise to help the company succeed are indications where the investor is adding value and can generate differentiated outcomes. Moreover, in the context of both public and private markets investing, investors that deploy capital for solutions can help companies grow their products and services by bringing their targeted expertise on the solutions area, lending their reputation that they have developed as investors in the solutions area, and leveraging their networks. Finally, in the context of public markets investing, engagement with management to change practices to generate better ES outcomes is another use case of higher additionality, compared to investors that do not engage with management.

Table 2 shows for each approach likely evidence of additionality. The two approaches where evidence of additionality is likely easier to be found will be in Solutions Leader and Engage to Improve approaches. In both approaches the investor is either helping actively the investee grow its business or change practices to achieve better ES and financial outcomes. Holding investor size and ownership stake equal across approaches, other approaches will have a harder time showing evidence of additionality. Some evidence could be provided by participation with other investors

[25] This is similar to how carbon offset additionality is not a binary outcome but "it best to think of additionality in terms of risk: how likely is a project to be additional?" Carbon Offset Guide.

in higher level (i.e., less deep) engagements with companies to improve ES outcomes and by documenting companies improving ES outcomes in order to become investable.

In many cases, investors might have a hard time attributing to their actions a specific outcome. For example, an investor might engage with a company on reducing its carbon intensity, and assuming that indeed carbon intensity reduced over time, it is not clear that it was the action of an investor that led to this outcome. This will be especially true as in many cases multiple investors engage with a company and it is not even clear that the company would not have achieved the same outcome either way even in the absence of investor engagement. In the case of a private investor that controls and owns the company this attribution becomes easier. There is a continuum of likely contribution that investors have on the outcomes they intend to achieve and the attribution of the outcome to the investor will always require some degree of judgement and will be costly to determine. This leads to the issue of cost constraints.

3.4. Cost Constraint

The costs of developing ESG investing needs to justify the benefits from the intended and measurable financial and ES outcomes. An investor needs to justify the investments made in the development of ESG processes, systems, training, and implementation of strategies in the context of the intended outcomes. While an investor could always spend more resources to obtain better data, train people more, or engage with more companies or more intensively with the same companies, all those activities are coming with an incremental cost. The same is true for the measurement and reporting of outcomes. While an investor could try and track a set of outcomes that could even consider a set of 'counterfactual outcomes' that would exist in the absence of the investor's activities, such measurements come at a higher cost and will be well suited for certain investors. Similarly, some outcomes will be easier and therefore less costly to measure than others. Therefore, one should expect that cost will be a constraint in the development of more sophisticated measurement strategies.

4. Concluding Thoughts

This paper differentiates ESG as a process from ESG as a product. ESG is the process of measuring relevant resources and outcomes, analyzing the resource allocation process that could derive optimal outcomes for an organization, managing those resources to improve outcomes, and

communicating the management of those resources and outcomes to stakeholders of the organization. Therefore, as a process, it can be implemented by any organization as they see fit with their purpose and strategy. Specifically, all investment managers, could adopt ESG as a process to the extent that the measurement and analysis of specific ESG issues, at a specific point in time, in specific geographic and industrial settings, helps with mitigation of risk and the pursuit of opportunities for growth.

The productization of ESG generates demand for a conceptual framework given that, as the analysis in this paper suggests, the diversity of approaches across ESG investment products produces, *by design*, significantly different portfolio characteristics. A conceptual framework for ESG investment products defines their objectives, identifies their fundamental characteristics, and highlights enhancing characteristics that could create 'shades of ESG,' in a continuum range rather than as a binary outcome. Central to the conceptual framework is the need for verifiability of intentions, through documentation of organizational beliefs, processes, and capabilities, and the measurement of outcomes from those intentions. Given lack of those attributes across many investment funds, the market size of eligible ESG investment products is likely to be much smaller than otherwise thought.

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Table 1: Attributes across ESG Strategies

	Leader Strategy			Transition Strategy	
Approach	Broad ESG Leader	Targeted ESG Leader	Solutions Leader	Selection Improver	Engage to Improve
Allocate Capital to	ESG leaders: broad ESG optimization	ESG leaders: targeted ESG dimension	ESG leaders: solutions providers	ESG laggards: existing improvers	ESG laggards: missing improvers
Portfolio					
ESG Characteristic(s)	High	High	High	Medium	Low/Medium
ESG Momentum	Low	Low	Low	High	Low/Medium
Diversification	High	High	Low	High	Low
Tracking Error	Low	Low	High	Low	High
Value Chain Focus of ESG					
Primary	How: Operations + Supply Chain	How: Operations + Supply Chain	What: Products & Services	How: Operations + Supply Chain	How or What: Company Specific
Secondary	What: Products & Services	What: Products & Services	How: Operations + Supply Chain	What: Products & Services	
Influence Level	Lower	Lower	Lower-Higher	Lower	Higher
Exposure to Headline ESG Risk	High for industry-specific benchmarking	High if industry-specific benchmarking or no exclusion of broad ESG metrics laggard	High if broad ESG metrics not included	High if no minimum threshold of ESG characteristics following improvement	High if unable to improve ESG characteristics or significant lag in improvement
	Low for market-wide benchmarking	Low if market-wide benchmarking and broad ESG metrics used to exclude laggards	Low if broad ESG metrics used to exclude laggards	Low if minimum threshold of ESG characteristics following improvement	Low if able to improve ESG characteristics fast
Markets	Public	Public	Public + Private	Public	Public + Private

Note: Selection Improver could be either based on broad or targeted ESG metrics. To avoid repetition of the same discussion as in Leaders, I do not tabulate this variation also within Transition strategies.

Table 2: Fundamental and Enhancing Characteristics across ESG Strategies

	Leader Strategy			Transition Strategy	
Approach	Broad ESG Leader	Targeted ESG Leader	Solutions Leader	Selection Improver	Engage to Improve
Common Beliefs	ESG issues are financially significant for organizations globally due to changes in policy, technology, market, and law, making collection, analysis, and valuation of ESG information and active ownership crucial in investment. Both private and public sector play a role in improving outcomes				
Intentionality: Beliefs about financials	ESG laggards expose portfolio to future risks	ESG laggards expose portfolio to future risks	ESG leaders that provide solutions expose portfolio to future growth	ESG improvers mitigate risk	ESG improvers mitigate risk
	ESG leaders have an advantage in talent, customer, and capital attraction and in regulatory compliance, resulting in superior profitability	ESG leaders have an advantage in talent, customer, and capital attraction and in regulatory compliance, resulting in superior profitability	Expansion and creation of markets for ESG solutions	ESG leaders have an advantage in talent, customer, and capital attraction and in regulatory compliance, resulting in superior profitability	ESG leaders have an advantage in talent, customer, and capital attraction and in regulatory compliance, resulting in superior profitability
Intentionality: Beliefs about ESG	ESG leaders stable	ESG leaders stable	Companies can overcome obstacles to scaling up solutions through technology, business model, and market development	ESG leadership fluid and many companies improving	Some companies need investor engagement to improve ESG leadership due to governance, incentive, and management challenges
	ESG leaders are valued at higher multiples, and this premium can expand as leaders differentiate themselves in product, capital, and labor markets	ESG leaders are valued at higher multiples, and this premium can expand as leaders differentiate themselves in product, capital, and labor markets	Unrecognized future growth potential in market prices as product markets and policies evolve	Improving ESG characteristics increases market valuation	Improving ESG characteristics increases market valuation
	ESG leaders are increasingly expanding and spreading better broad ESG practices.	ESG leaders are increasingly expanding and spreading better targeted ESG practices.	Supporting ESG leaders that provide solutions enables scaling up	Supporting ESG improvements signals preferences and incentivizes further improvements	Investor engagement directly influences ESG laggards to improve.

	Exclusion signals preferences and incentivizes broad ESG improvement among laggards	Exclusion signals preferences and incentivizes targeted ESG improvement among laggards	Supporting ESG leaders signals preferences and incentivizes more solutions	Including ESG improvers signals preferences and incentivizes ESG laggards to improve	Engagement signals preferences and incentivizes ESG laggards to improve
Intentionality: Key Capabilities	High quality, scalable ESG data across companies and issues	High quality, scalable targeted ESG data across companies	Analysis and valuation of market dynamics, technologies, and business models for targeted solutions	High quality scalable ESG data across companies and issues	Identification of key ESG weaknesses through analysis and valuation of ESG characteristics
	Skills in incorporating a broad set of ESG characteristics in business analysis and valuation	Skills in incorporating a targeted set of ESG characteristics in business analysis and valuation	Reputation, networks, expertise in targeted solutions	Skills in incorporating a broad set of ESG characteristics in business analysis and valuation	Skills in influencing management and governance
Measurement	Broad set of ES outcomes better than benchmark	Targeted set of ES outcomes better than benchmark	Solutions products linked to better ES outcomes	ES outcomes improving over time	ES outcomes improving over time
	Minimum thresholds for outcomes	Minimum thresholds for outcomes	Growth of revenues from solutions	Minimum thresholds for rate of improvement in outcomes	Minimum thresholds for rate of improvement in outcomes
	Presence of significant adverse ES outcomes	Presence of significant adverse ES outcomes	Presence of significant adverse ES outcomes	Presence of significant adverse ES outcomes	Presence of significant adverse ES outcomes
Evidence of Materiality	Prioritization of material ESG issues based on logic and evidence for score and portfolio construction	Prioritization process and logic for targeted issue in portfolio construction	Prioritization of scalable solutions for a specific challenge	Prioritization of material ESG issues based on logic and evidence for score and portfolio construction	Prioritization of a specific issue and the ability to change practice for a specific company
Evidence of Investor Additionality	Harder:	Harder:	Easier:	Harder:	Easier:
	Participation with other investors in high level engagements on a broad set of ESG issues	Participation with other investors in high level engagements on targeted issue	Lending investor credibility in the solution area	Participation with other investors in high level engagements on targeted issue	Direct cause and effect analysis from targeted engagements
	Companies improving ESG characteristics to be included in portfolio	Companies improving targeted ESG characteristics to be included in portfolio	Providing expertise and networks to scale up solutions	Companies improving ESG characteristics to be included in portfolio	