

# Investing for Long-Term Value Creation

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## **Abstract**

In the transition to a sustainable economy, companies are increasingly adopting the goal of long-term value creation, which integrates financial, social and environmental value. Traditional investment approaches, based on the neo-classical paradigm of efficient markets and portfolio theory, assume that all information is incorporated in stock prices. But these approaches only capture the financial value in their financial risk and return space. By contrast, the adaptive markets hypothesis recognises the limitations to market efficiency and the need for market participants to adapt to new social and environmental factors.

This paper proposes an active investment approach, based on fundamental analysis of companies environmental, social and governance (ESG) factors and engagement with investee companies on material ESG factors. The aim is to uncover and realise companies' social and environmental value next to their financial value. The incorporation of ESG information into stock prices is an adaptive process, dependent on the number of fundamental analysts. This paper develops six conditions for investing for long-term value creation, including alternative ways to measure investor performance, both in financial and non-financial ways.

## *Acknowledgements*

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## 1. Introduction

There is an important role for the financial system in achieving the transition to a sustainable economy. To guide the transformation towards a sustainable and inclusive economy, the United Nations has developed the 2030 Agenda for Sustainable Development with 17 concrete sustainable development goals (UN, 2015). Sustainable development is an integrated concept with three dimensions: economic (e.g. inclusive growth and decent work), social (e.g. access to education and healthcare) and environmental (e.g. reducing climate change and availability of fresh water).

The corporate sector can play an important role in achieving these sustainable development goals through long-term value creation. The concept of long-term value creation means that a company aims to optimise its financial, social and environmental value in the long term (Dyllick and Muff, 2016; Tirole, 2017; Schoenmaker, 2018). The optimisation requires a careful balancing of the three dimensions whereby none should deteriorate in favour of the others. For decades, maximising profits has been the leading objective in corporate finance. However, recent papers (e.g. Magill, Quinzii and Rochet, 2015; Hart and Zingales, 2017) argue for a broader corporate objective than shareholder value in a narrow sense.

Hart and Zingales (2017) make a distinction between shareholder value, which aims for maximisation of financial value only, and shareholder welfare, which incorporates social and environmental externalities. An important assumption in their model is that these externalities are not perfectly separable from production decisions. So, companies face a choice in the degree of sustainability in their business model. The mechanism in Hart and Zingales (2017) to guide that choice is voting by prosocial shareholders on corporate policy.

Magill, Quinzii and Rochet (2015) argue also that large companies should act in the interests of a broader group of agents than just their shareholders (the stakeholder view). In their model, a large firm typically faces endogenous risks that may have a significant impact on the workers it employs and the consumers it serves. These risks generate externalities on these stakeholders, which are not internalised by shareholders. Magill *et al* (2015) analyse how a stakeholder criterion can improve on the shareholder profit-maximising equilibrium.

The internalisation of externalities is a dynamic process. Some externalities are already internalised through best business practices at companies, for example, energy and material savings in the production process and cultivating an inspired work force. Further externalities may be internalised in the future under pressure from government interaction, such as regulation and tax, societal pressure, and technological developments, such as low cost solar and wind energy (True Price, 2014). Companies can incorporate externalities by connecting the relevant social and environmental dimensions to their business model (Schramade, 2016). That is in line with the Hart-Zingales and Magill-Quinzii-Rochet models, which assume that the externalities are connected to a company's production process.

The materiality (or lack thereof) of the social and environmental dimensions varies per industry, and also within industries, depending on the nature of the industry, the specific company's business model and local conditions. New evidence indicates that there is a business case for full environmental, social and governance (ESG) integration into investment. Companies that perform well on material ESG issues, also show a superior financial performance (e.g. Khan, Serafeim and Yoon, 2016; Clark, Feiner and Viehs, 2015).

This is consistent with the idea that strong management of material ESG issues brings a real competitive advantage.

Investors are increasingly using ESG ratings to incorporate the social and environmental dimensions in the investment process. But these external ratings rely on scanty and sometimes conflicting data (Tirole, 2017) and provide only limited information on material ESG factors. Schramade (2016) argues that investing in sustainable companies (defined as companies that optimise financial, social and environmental value in the long term) requires doing fundamental analysis of the business model and the underlying value drivers of investee companies. This paper analyses the consequences of sustainable investing for the investment decision-making process: pricing, allocation and performance measurement. We identify the excessive reliance on market metrics and the complexity of long investment chains in institutional investment as main barriers to sustainable investing.

Reliance on market metrics often results in a narrow focus on short-term financial metrics without consideration of environmental and social issues. Next, the excessive diversification of portfolio theory creates a free rider problem in the monitoring of corporate managements. Moreover, long and complicated investment chains mean that incentives are distorted, the horizon gets shorter with each extra party in the chain and meaningful information is lost along the chain (Neal and Warren, 2015).

A main task of the financial system is to allocate funding to its most productive use. This paper argues that this role can be expanded beyond a narrow economic allocation of investments to a wider societal allocation, which includes the social and environmental dimensions. In this way, finance can play a leading role in allocating investment to sustainable corporates and projects and thus accelerate the transition to a sustainable economy. Moreover, investors can exert influence on the corporates in which they invest. McCahery, Sautner and Starks (2016) show which instruments long-term investors are using to steer corporates towards sustainable business practices. Early evidence shows that financial and societal considerations are converging. In an empirical test of institutional investors' ESG strategies, Dyck, Lins, Roth and Wagner (2018) find growing importance of financial motivations behind investors' push for social and environmental performance.

This paper proposes an active investment approach, based on fundamental analysis of companies' ESG factors and engagement with investee companies on material ESG factors. The aim is to uncover and realise companies' social and environmental value next to their financial value. Fundamental investing leads to more concentrated portfolios (e.g. Choi, Fedenia, Skiba and Sokolyk, 2017) away from the benchmark (e.g. Cremers and Pareek, 2016). The incorporation of ESG information into stock prices is an adaptive process, dependent on the number of fundamental analysts and the quality of their learning (Lo, 2017).

Based on our analysis of the investment decision-making process, this paper identifies six conditions for investing for long-term value creation: 1) long investment horizons; 2) active management in concentrated portfolios; 3) effective engagement with companies; 4) performance analysis of value-added in the real economy; 5) long-term alignment of the mandates of asset owners and asset managers; and 6) keeping the investment chain short. These conditions are very much related to each other.

This paper is organised as follows. Section 2 discusses the problems of reliance on market metrics and complicated investment chains. Section 3 then discusses why ESG ratings are not yet the answer. Section 4 presents active investment approaches to fully integrate ESG information in the investment process. Section 5 develops conditions for investing for long-term value creation. Finally, Section 6 concludes.

## **2. (Over)reliance on market metrics**

The efficient markets hypothesis and portfolio theory have been so influential over the past five decades that they pervade the language and thinking of asset management. These theories also established the separation of finance and ethics. Traditional finance is consistent with the argument of Friedman (1970) that ‘the business of business is business’. In this view, it is the task of the government to take care of social and environmental concerns. This separation between finance and societal concerns is especially true in the US (Simon, 2017) but it applies to the entire global financial system, which is dominated by US asset managers and US investment banks. It is second nature for investors to think and communicate in market benchmarks and market risks. This affects the functions of pricing, allocation and performance measurement in the investment process.

### **2.1 Pricing**

The efficient markets hypothesis assumes that all relevant information of a company is incorporated in that company’s stock or market price (Fama, 1970). Investors cannot systematically beat the market. The market is supposed to be so efficient that it immediately incorporates all relevant new information, making it impossible for investors to benefit from superior insights or information. While there are differences in risk-return profiles across assets, these assets are assumed to be priced accordingly. Arbitrage makes sure that prices stay correct: abnormally high return assets immediately attract more fund flows, which drive up prices and reset expected returns back to the market rate. As a result, in the world of efficient markets, there is no mispricing to be exploited and there is no point in active investing. The narrow financial risk-return thinking has led to a strong focus on the stock price as central performance measure for executive and investor performance.

However, there is plenty of evidence that markets are not always efficient. Whereas the efficient markets hypothesis assumes perfectly rational investors, a vast body of behavioural finance literature has shown since the 1970s that people (including investors) are far from rational (e.g. the early work by Tversky and Kahneman (1973) and the review article by Barberis and Thaler (2003)). The efficiency of markets has also been questioned by strong evidence on the momentum factor, which shows that stocks that have done well over the past few months tend to continue to do well over the next several months (Jegadeesh and Titman, 1993). Behavioural finance indicates that such lack of rationality has important implications for financial markets, which can be seriously overvalued or undervalued for extended periods of time. Later on, these behavioural anomalies have been supplemented by sustainability anomalies (e.g. Khan, Serafeim and Yoon, 2016).

## **2.2 Allocation**

The capital asset pricing model built on modern portfolio theory (Markowitz, 1952) stresses that risk is an inherent part of higher reward. Importantly, risk and return characteristics should not be considered in isolation per security, but by how much the investment affects the overall portfolio's risk and return. One can construct an efficient frontier of optimal portfolios that maximise expected return for a given level of risk, leading to an efficient economic allocation (e.g. Elton, Gruber, Brown and Goetzmann, 2014). In the capital asset pricing model, the only relevant variable to determine a stock's return is its sensitivity to the market, which is called systematic risk. The non-systematic or idiosyncratic risk is not priced. In equilibrium, all investors hold the market portfolio, which is replicated in the market index. It suffices to adopt a passive investment approach by investing in the market index. That is a very strong idea indeed. But the problem is the narrow view on financial risk and return, ignoring the social and environmental dimensions. Even the measure of financial risk is rather narrow, as it is based solely on the volatility of past stock returns, which not necessarily captures the fundamental risks of the companies in the portfolio.

## **2.3 Performance measurement**

Performance measurement is also versed in the language of efficient markets and portfolio theory. The traditional performance measure is benchmarking an investor's returns to those of the relevant market index, which is confined to the financial risk and return dimension. Market benchmarks are indices, such as the MSCI World Index or the MSCI All Country World Index, that consist of a basket of the largest companies by market capitalisation in a certain market (i.e., the global stock market, a regional market like Developed Asia or a sector like Real Estate). The underlying idea is that the index represents 'the market'. When assessing a fund manager's performance, his or her performance will be measured against such a benchmark (was it higher or lower over the past 5 years, 3 years, 1 year, 6 months, 1 month, and 1 day?), correcting for the amount of risk the fund manager took in achieving that result.

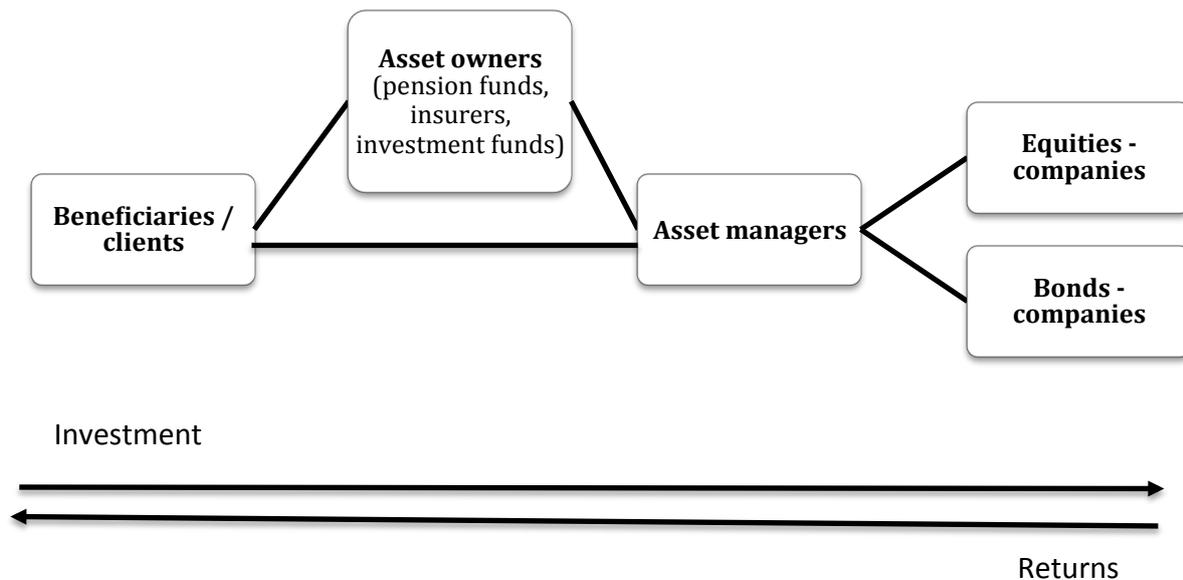
Measures for such market risk-taking include beta, tracking error, information ratio and Sharpe ratio (e.g. Elton, Gruber, Brown and Goetzmann, 2014). These performance measures relate a portfolio's return to the market return (or the risk free rate return), which is calculated in a financial risk-return space. In this view, there is no need to analyse the companies in the portfolio themselves; only the sensitivity of the portfolio's return to the market. The social and environmental dimensions are not included in these performance measures.

## **2.4 Long investment chains**

Long investment chains exacerbate the reliance on market metrics, as each party wants to monitor the investment performance of the next party in the chain. Along the chain, a lot of valuable information is typically lost. In institutional investment, there is typically a long and complicated chain of parties that sit between the ultimate provider of capital (typically someone investing for his or her retirement) and the ultimate user of capital (typically a company or project). In their simplest form, such investment chains look like Figure 1. But in practice, such chains are much more complicated than suggested by Figure 1, because

beneficiaries typically have investments with multiple asset owners (pension funds of current and past employment; several insurance products) and multiple asset managers. In an investment chain, there is a principal-agent relationship between the parties at each link, with implications for allocation and performance. The investment performance of the asset manager is, for example, often measured against a clearly articulated market benchmark.

**Figure 1: A stylised investment chain**



Investment decisions are often made across multi-layered asset owner organisations supported by multiple consultants and ratings agencies. A pension fund, for example, typically has a long chain:

- Beneficiaries (pensioners and future pensioners);
- Governing board;
- CEO and/or CIO;
- Asset class heads;
- Supporting functions like finance, accounting, legal, and compliance;
- External and internal asset managers.

Delegated investment management – with multiple parties in the investment chain – causes agency problems between the asset owner or principal on the one hand and the delegated asset manager or agent responsible for making investment decisions on the other hand. Investment objectives, risk appetite, incentives, horizons and knowledge are typically not fully aligned, neither across nor within organisations. These problems are exacerbated when investing for the long term, where the payoff is distant and often highly uncertain (Neal and Warren, 2015). The human reflex is to battle such uncertainty by focusing on short-term metrics that can be measured.

Problems arise from differences in investment horizons, a tendency to evaluate and reward based on short-term results and a failure to commit. While an institutional investor might wish to pursue a long-term investment strategy for its beneficiaries, it might also use a quarterly benchmark to evaluate its asset managers internally. Next, an institutional investor might appoint internal and external gatekeepers to benchmark them against each other. In such a setting, it is very difficult to avoid tactical investment decisions aimed at short-term investment gains. Neal and Warren (2015) propose that long-term investors should aim to create an environment in which all principals and agents along the chain of delegation are aligned, engaged and incentivised to work towards long-term outcomes and committed to investing for the long run (see Section 4.7).

### **3. Limitations of ESG ratings**

Several efforts have been made to supplement the market metrics with ESG ratings and ESG indices. But they only help to some extent. Like Corporate Social Responsibility (CSR) on the corporate side, they do not address the core of the issue but rather consider ESG as something besides financials and business models, instead of something that is part of what drives business models and financials. That is also how most investment professionals have been using ESG ratings and ESG indices: as yet another indicator that may look good or bad, but which hardly affects their investment decision. These practices follow partly from the market-based approach to investing (see Section 2) and partly from limitations of ratings.

To distinguish companies' sustainability profiles, ESG ratings have been invented and added to the investor's toolbox. ESG ratings agencies, like MSCI, Sustainalytics, and Oekom, score thousands of firms on several sustainability metrics within the E, S, and G domains. They provide scores and reports at the company level, to be used by investors with a subscription to their services. The advantage of these ESG ratings is that they provide investors with a quick approximation of a firm's ESG quality, just like a price-earnings ratio provides investors with a quick view on a firm's valuation. However, just like valuation multiples, ESG ratings are imprecise shortcuts that can be incorrect at the company level. They can make more sense at the portfolio or market level, where random errors may cancel each other out. But even then, one should be vigilant of systematic errors.

#### **3.1 *Design limitations***

ESG ratings have a number of limitations by design. First, ratings want to be too many things to too many people. They have little focus on material issues (i.e. issues that are relevant to the investee companies), while it is crucial for investment purposes to focus on material issues (Khan, Serafeim and Yoon, 2016). Second, the ratings are based on reported data and policies, which is only a fraction of what is needed for a good assessment and sometimes even conflicting (Tirole, 2017). Third, scores are 'industry neutral' and based mainly on operations, while hardly taking into account the products of the companies in question. As a result, tobacco and coal mining companies can get very high scores in spite of the nature of their products. Finally, there are too many stocks (as many as 70) covered per analyst, which also makes an in-depth assessment unlikely. While the ESG ratings agencies do aim to

address these design limitations, they seem trapped by their own frameworks, which they are reluctant to change because they want to maintain consistency in their data.

The design limitations result in several problems that reduce the relevance of ratings to investors. One such problem is the existence of biases in scores, for example, on size (as they favour large companies with big sustainability staff departments) and region (higher scores for European companies). Another problem is that the 'industry neutral' approach results in ratings that are intuitively wrong - as the least bad companies in very unsustainable industries (say coal or tobacco) still get very high scores and can be named sustainability leaders. The lack of focus on material issues means that a materially negative (and potentially fatal) issue is easily cancelled out by high scores on immaterial items, resulting in serious mistakes, which would have been spotted in a diagnosis by a seasoned analyst.

For example, the software fraud at Volkswagen was not very surprising given the major governance issues at the firm, with fighting shareholders and the local government pushing to maximise financial returns and employment at the expense of environmental standards. These issues were well flagged, but Volkswagen nevertheless got very high ratings with most of the ESG rating agencies as Volkswagen ticked many positive boxes on other issues. This also happened at other firms like Toshiba. Yet other firms, especially small ones, get low ratings since they do not put enough information on their policies in the public domain; or they get misclassified and compared with the wrong kind of firms. Hence, it is not surprising to see a lack of correlation in scores between ratings agencies. Across 1,600 stocks in the MSCI World benchmark, Howard (2016) finds a correlation of 26 per cent between the scores assigned by the two largest rating agencies. Based on survey data, Mooij (2017a) concludes that 'reporting fatigue, a lack of convergence and the (sometimes) poor quality and transparency have made the ESG rating industry more vice than virtue in the adoption of responsible investment.'

In sum, ESG ratings need to get better. Investors should not accept them as the conclusion on a company's sustainability quality, but rather as a starting point for analysis. What is more, they should reconsider some of their core assumptions to really embed ESG in their investment process.

### **3.2 Current state of play**

CFA (2015) distinguishes six methods for considering ESG issues:

1. Exclusionary / negative screening: a method of deliberately not investing in companies that do not meet certain preset criteria;
2. Best in class: an approach to sustainable investing that focuses on investing in companies that perform better on ESG issues than their peers do;
3. Active ownership: engage with companies to improve their ESG performance;
4. Thematic investing: focusing on those parts of the universe that benefit from and provide solutions for certain ESG trends;
5. Impact investing: an approach to investing that deliberately aims for both financial and societal value creation, as well as the measurement of societal value creation;
6. ESG integration: the explicit integration of E, S and G issues into the valuation and selection of securities.

The current state of play is that among institutional investors that follow ESG strategies, about half of them only use ESG ratings for negative screening – that is, to exclude companies with very negative externalities. The other half applies ESG ratings for positive screening, such as best-in-class and thematic investing (Eccles, Kastrapeli and Potter, 2017). However, these ESG ratings have their design limitations, as discussed in Section 3.1. Moreover, investors ultimately continue to rely on metrics, like tracking errors and returns versus market benchmarks. The ratings are just added to these metrics. The next stage is full ESG integration, which is discussed in the next section.

#### **4. Active investment approaches**

This section proposes an active investment approach, based on fundamental analysis of companies' environmental, social and governance (ESG) factors and engagement with investee companies on material ESG factors. The aim is to uncover and realise companies' social and environmental value next to their financial value. The incorporation of ESG information into stock prices is an adaptive process, dependent on the number of fundamental analysts, how they have their decisions determined by ESG factors, and the quality of their learning. The remainder of this section considers the same functions as in Section 2 (pricing, allocation, and performance measurement), but through the lens of their potential in active investment management, and adds engagement to the list.

##### **4.1 Pricing: from EMH to AMH**

The adaptive markets hypothesis (AMH) provides an alternative description of markets (Lo, 2004 and 2017). Contrary to the neoclassical view that individuals maximise expected utility and have rational expectations, an evolutionary perspective makes considerably more modest claims. The degree of market efficiency depends on an evolutionary model of individuals adapting to a changing environment. Prices reflect as much information as dictated by the combination of environmental conditions and the number and nature of distinct groups of market participants, each behaving in a common manner and having a common investment horizon. For example, retail investors, institutional investors, market makers and hedge fund managers can be seen as distinct groups with differing investment horizons. If multiple groups (or the members of a single highly populous group) are competing within a single market, that market is likely to be highly efficient. If, on the other hand, a small number of groups are active in a given market, that market will be less efficient. The adaptive markets hypothesis can explain why new risks, such as environmental risks, are not yet fully priced in, because not enough investors are examining these new risks.

Andersson, Bolton and Samama (2016) argue, for example, that there is little awareness of carbon risk among (institutional) investors and it is thus not priced by the market. Hong, Li and Xu (2016) investigate whether stock markets efficiently price risks brought on or exacerbated by climate change. Their findings support regulatory concerns that markets that are inexperienced with climate change underreact to such risks. Hong, Li and Xu (2016) thus call for corporate exposure to climate risks to be disclosed.

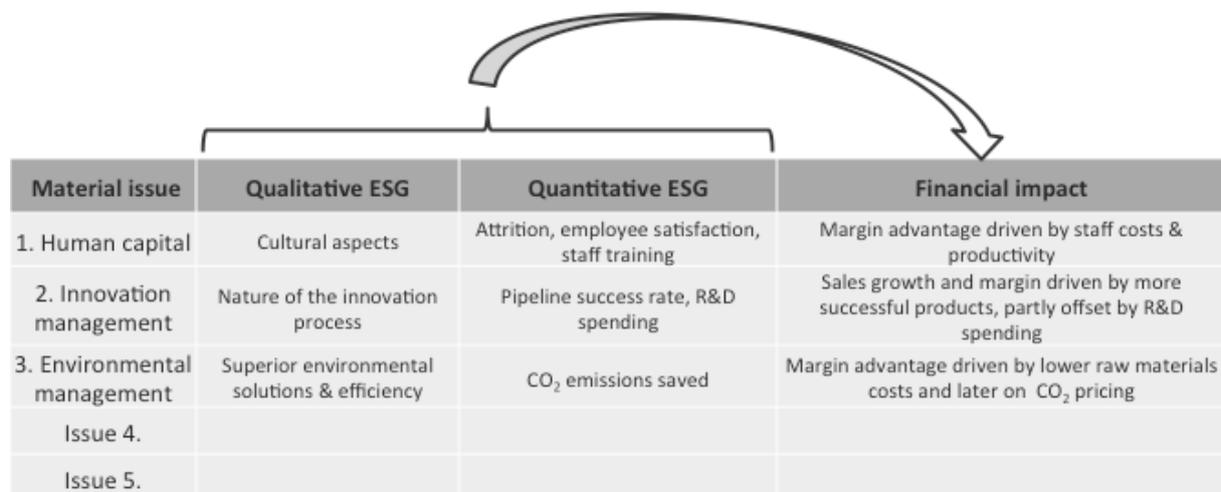
## **4.2 Allocation (1): from ESG factors to fundamental ESG analysis**

In such an adaptive process, the social and environmental dimensions would be incorporated into investment allocation. First of all, an investment analyst would need to investigate the materiality of ESG factors and their impact on an investee company. As the UN Sustainable Development Goals are about transition, true sustainability investing should mean investing in transition. Hence, an investor needs to know how well or ill prepared an investee company is: can the company's business model be adapted to a sustainable economy? Such preparedness can be assessed at the company level and hitherto only in a diagnostic way (Schramade, 2016). This means that one needs an expert, like a fundamental analyst, to make a judgement call as to a company's preparedness. As we lack objective and scalable metrics for preparedness, it is not yet possible to make an assessment at the portfolio or market level. Existing metrics and classifications do not suffice yet.

Private equity operates more or less in this way. Private equity investors look into companies and analyse future prospects (which could include transition preparedness), while taking a step away from financial markets, short-term metrics and portfolios. It means deviating much more from benchmarks, without caring about that. This is a path taken not just by sustainability investors, but also by several investors looking for better 'alpha opportunities' in less well-known companies that are not covered by several sell-side analysts. Cremers and Pareek (2016) show that investing away from the benchmark (with high active share, as they call it) combined with a patient investment strategy (with holding duration of over two years) generates on average an outperformance of over 2 per cent per year. Moreover, Van Nieuwerburgh and Veldkamp (2010) find evidence for the theory of information advantage. The investor who can first collect information systematically deviates from holding a diversified portfolio (see below).

Another implication of a renewed focus on companies and their preparedness is that the traditional tools do not suffice. Investors have to look at companies through a different lens, and go beyond traditional financial statement analysis. Inserting some ESG ratings does not measure companies' preparedness for transition, as argued above. Rather, one needs to adopt new tools and data (and often invent them) to really assess the earlier mentioned transformational challenge. This includes considering social and environmental externalities, investigating governance and behaviour, and making an educated guess on their impact on companies' strategies and business models (Schramade, 2016). That, in turn, requires an in-depth fundamental analysis of companies. Figure 2 provides a simplified illustration of such ESG analysis at the company and industry level. An analyst starts by identifying the company's material ESG issues, and subsequently assesses those issues in both qualitative and quantitative ways to arrive at their financial impact.

**Figure 2: Financial impact of qualitative and quantitative ESG information**



Note: The first step is identifying the company’s material ESG issues. The second step is assessing those issues in both qualitative and quantitative ways to arrive at their financial impact (the final step).

Source: NN Investment Partners.

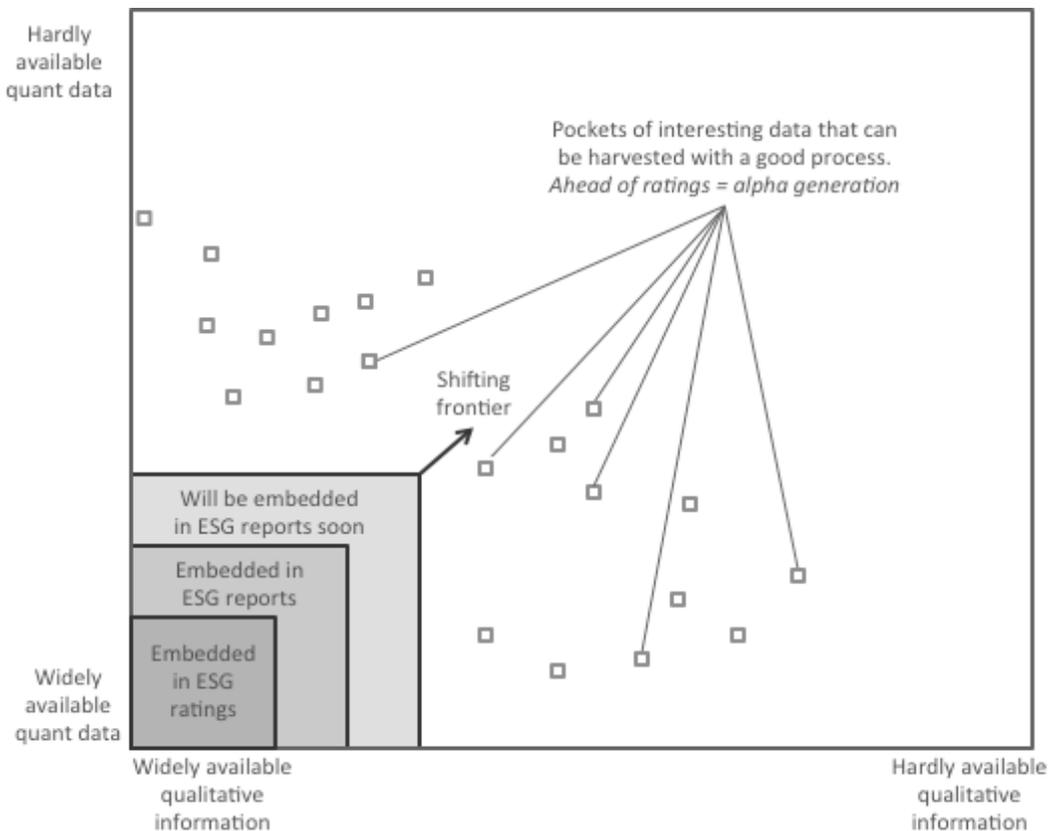
Such transition preparedness analysis is impossible with a passive investment approach and nearly impossible with a quant approach. There are several reasons for this. First, ratings are of limited use, as argued before. Second, there is a lack of universally relevant indicators. For quant and passive approaches to be meaningful in assessing transition preparedness, they require indicators that ‘work’ at the market level, i.e. are relevant across companies and sectors. But so far, these indicators are rare because materiality is industry or even company specific. Where quant ESG is successful, it is mostly at tracking short-term ESG momentum (Kaiser, 2017) often without a theoretical model or clear thought behind it, let alone a view on transitions. Hence, it is complementary to fundamental analysis rather than an alternative to it.

Although transition preparedness analysis is possible with an active approach, unfortunately only very few do it (Cappucci, 2017; Mooij, 2017b). Ironically, that is partly because many analysts are critical of ESG due to the low relevance of ratings. Unfortunately, that does not stimulate them to dig deeper themselves. The fact that very few do transition preparedness analysis, and that quants cannot do it, is also an opportunity for very good financial performance (alpha generation in Figure 3) – just like any use of valuable additional tools and data that most other market participants do not use. This is adaptation at work. Over time, quant and even passive will get better at it, as ratings are expected to improve. Figure 3 provides a dynamic picture of the availability of qualitative and quantitative ESG data. The lack of available data is very large now, but should diminish over time in line with the adaptive markets hypothesis, with pockets of poorly used (and poorly available) data as inefficiencies and opportunities to be exploited.

ESG integration can be complemented by engagement with investee companies (see below) to reap the full benefits of ESG research. However, for that to happen, we need a

change of governance and incentives in the investment chain, which is overly long and complicated.

**Figure 3: The increasing availability of ESG data**



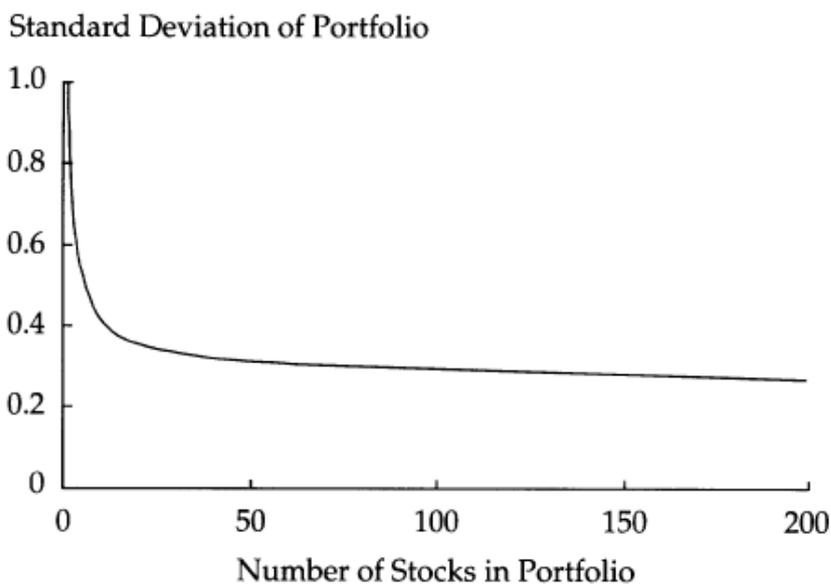
#### 4.3 Allocation (2): from diversified to more concentrated portfolios

In active management, allocation not only differs in the type of analysis, but also in the concentration of portfolios. By its nature, thorough fundamental ESG analysis can be done for a limited number of companies only, resulting in more concentrated portfolios. In a large cross-country study of security holdings of institutional investors, Choi, Fedenia, Skiba and Sokolyk (2017) find that concentrated investment strategies in international markets result in excess risk-adjusted returns, conditional on an information advantage. Institutional investors concentrate holdings in their home market and selected foreign markets and industries as if they possess an information advantage. Institutional investors with higher learning capacity (i.e. skilled investors) form more concentrated portfolios. These results suggest, in contrast to traditional asset pricing theory and in support of information advantage theory (see above), that concentrated investment strategies can be optimal.

Statman (2004) shows that a well-diversified stock portfolio needs to include just 50 to 100 stocks to eliminate idiosyncratic or unsystematic variance of stock returns. There are smaller benefits of diversification beyond those 100 stocks, but they are exhausted when the number of stocks surpasses 300 stocks (see Figure 4). Risk management should monitor that

the stocks are not overly correlated (reducing their diversification potential) and are spread over sectors and countries. Moreover, diversification gains are mainly driven by a well-balanced allocation over different asset classes, like equities, bonds and alternative investments (i.e. real estate, private equity, hedge funds, commodities and infrastructure) (see for example Jacobs, Müller and Weber, 2014). Thus, for diversification it is more important to have a concentrated portfolio in each asset class than to have a very diversified portfolio (beyond 100 securities) in a single asset class.

**Figure 4: Diminishing benefits from diversification**



Source: Statman (2004).

Moreover, diversification comes at a cost, especially in the supposedly low cost passive investment strategy (which charge low fees). First, diversification reduces selectiveness, which disappears almost completely in passive strategies. In passive investing, it is not possible to invest only in the sub-set of companies that are able and willing to transform towards sustainable business models. However, it is possible to build passive investments on ESG adjusted indices that exclude the really bad industries, such as coal and tobacco. This negative screening is a rather crude measure, but does steer investment away from the worst companies.

Second, the larger the number of stocks owned, the harder it becomes to have sufficient knowledge about, and really engage with, multiple companies in the portfolio. Third, on an aggregated level, widely diversified portfolios result in inadequate monitoring of corporate management teams. A free-rider problem arises as small percentage stakes mean that few investors have sufficient incentives to monitor management.

#### **4.4 Engagement**

Another element of an active investment approach is effective engagement with investee companies on the long-term, both behind the scenes by meeting with companies and in the

annual general meeting by voting (McCahery, Sautner and Starks, 2016). Investors and companies can exchange not only funds, but also ideas on how best to put these funds to work. Even the companies that are already on a journey to become more sustainable still need help in developing the most useful and cost-effective disclosure practices. And while lots of investors want companies to provide more and better disclosure of their ESG exposures, they tend to shy away from giving explicit recommendations. So, investors need to become more active in communicating their demands and preferences for information (Higgins, White, Beller and Schapiro, 2017).

However, such engagement is costly. It requires human resources, expertise and time of the asset managers, ideally delivered in cooperation between portfolio managers, investment analysts and sustainability specialists. This is only feasible in a concentrated and actively managed portfolio: 100 stocks can be followed and engaged by a small team of people who work closely together. Engagement needs to be actively managed to allow the investment case knowledge of portfolio managers and investment analysts to be integrated into the engagement.

In practice, this happens at very few financial firms. Rather, engagement is typically done at the group level for a small percentage of the holdings and by a team of engagement specialists that lack knowledge of the firms' investment cases and hence miss important points, resulting in engagement on matters that are often not material. As passive portfolios typically have thousands of stocks, the best a passive asset owner can do in practice is to vote for all those companies along the guidelines of a proxy advisor and do engagement with a few dozen companies, but typically disconnected from the investment case, materiality, and transition preparedness.

Interestingly, new evidence is emerging that financial and societal considerations are converging. In an empirical test of institutional investors' ESG strategies, Dyck, Lins, Roth and Wagner (2018) find growing importance of financial motivations behind investors' push for social and environmental performance.

#### **4.5 Alternative measures of performance (1): financial**

Investors face an information problem when judging the performance of their fund manager. One way of mitigating that problem is by benchmarking fund performance, either to others in the industry or to an industry-wide index. That is an important reason why relative return benchmarking and index-tracking is commonplace (Haldane, 2014). The resulting problem is that funds are reduced to a few simple backward looking metrics, which gives incentives for taking shortcuts, without real accountability. Still, those metrics are not entirely without merit. So what to do with them? A possible solution lies in using those same metrics in a more flexible, slightly adapted way, while being cognisant of their limitations (e.g. only measuring the financial dimension). For example, instead of measuring performance against a single benchmark, one could use:

- A range of indices instead of a single one;
- A peer group of comparable competitor funds;
- An absolute return target, possibly corrected for an absolute risk metric.

An absolute return is appealing as it is often more closely aligned with the goals of the beneficiaries, which are typically in the realm of building capital over the long run rather than beating indices. Jordà *et al.* (2017) find a long-term average return on equity of about 7 per cent in a cross-country study. An absolute return target could, for example, be 7 per cent over 5 year cycles. An absolute return target is not the holy grail of performance measurement, but simply switching perspective and putting performance in a wider context is valuable.

#### **4.6 Alternative measures of performance (2): non-financial**

It is important to have also non-financial performance measurement, as we aim for optimisation of the financial, social and environmental dimensions given risk. There are several ways to do that:

1. Performance on specific key performance indicators (KPIs);
2. Externality valuation methods;
3. Contribution to global sustainability goals.

##### *1. Performance on specific KPIs*

Investors increasingly consider company performance on specific KPIs pertaining to components of E, S and G. For example, on E, many companies now report their scope 1, 2, and 3 CO<sub>2</sub> emissions<sup>1</sup>, and these data are fed into the Bloomberg data system available to a large part of the institutional investment community (Bloomberg, 2013). To a lesser extent, this also applies to water and waste data (Bloomberg, 2015). On S, there is increasing reporting of data points like employee attrition, percentage women on of the workforce, job creation and safety data, like lost time injury frequency rates (LTIFR)<sup>2</sup>. On G, there is, for example, the number of independent directors, gender balance and voting rules to consider.

It is great that such data is increasingly becoming available and indeed analysed. But there are also limitations to analysing the performance on specific KPIs. First, each one of the KPIs is too narrow individually. As they pertain to specific components of performance, their meaning on a standalone basis is inherently insufficient to obtain a holistic view of sustainability performance. Second, KPIs are very hard to compare across companies and industries. The 'normal' values of these KPIs are very much affected by the nature of a firm's activities, and also by where the boundaries of the firm are drawn. For example, safety issues are much more of a concern for metals and mining companies than for financial institutions. The latter have negligible LTIFR rates, whereas the former do post lost time or even fatalities from workplace accidents. But large differences in LTIFR rates can also be

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<sup>1</sup> The Greenhouse Gas Protocol (WRI, 2015) distinguishes between direct emissions from sources that are owned or controlled by the reporting entity and indirect emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity. The GHG Protocol categorises

- **Scope 1:** All direct GHG emissions of an organisation;
- **Scope 2:** Indirect GHG emissions from consumption of purchased electricity, heat or steam;
- **Scope 3:** Other indirect emissions - the full corporate value chain emissions from the products they buy, manufacture and sell.

<sup>2</sup> The lost time injury frequency rate measures the number of lost time injuries occurring in a workplace per 1 million hours worked. An LTIFR of 7, for example, shows that 7 lost time injuries occur on a jobsite every 1 million hours worked.

observed within metals and mining, as rates tend to be higher in underground mines, in more labour intense mines and in less developed companies. So, if a certain mining company decides to divest a business unit that operates in such a higher LTIFR rate environment, its overall LTIFR rate will dramatically improve without actually making an improvement in safety conditions. So, it is not just hard to compare such KPIs across companies within industries or across industries, it is also hard to compare them for the same company over time. The comparison can be done, but it requires diligent work by an experienced analyst that takes all the relevant circumstances into account.

Third, the KPIs in question may not measure all that should be measured. For example, reporting of scope 1, 2, and 3 carbon emissions is becoming more common, but provides an incomplete overview of emission patterns. Those emissions give an impression of the current footprint of companies, but they do not indicate to what extent companies succeed in avoiding emissions elsewhere in the chain. Very few companies do report on this, such as Novozymes, which reports in its 2017 annual report that it helps clients to save 76 million tons of CO<sub>2</sub>. That is, 76 million tons of CO<sub>2</sub> are not emitted but would have been emitted by Novozymes' clients if they had used alternative products. For Novozymes, and quite a few other companies, these emissions saved are a multitude of their own emissions, and indicative of the sizeable solutions they provide for achieving a more sustainable economy. Seeing these wider numbers reported, in addition to the carbon emissions of the company itself, would be very valuable. Fourth, it is not clear if performance on a certain KPIs means a sufficient contribution to achieving a more sustainable model.

In sum, it is good that these KPIs are measured and reported, but they are in their infancy and should be used with caution.

## *2. Externality valuation frameworks*

Whereas specific KPIs tend to be quite narrow, the analysis of externalities offers a more holistic perspective. In recent years, new frameworks have been developed that try to measure and value companies' externalities (True Price, 2014; KPMG, 2014). The methodology for calculating the integrated value involves measuring, monetising and balancing financial, social and environmental values. In 'A new vision of value', KPMG (2014) argues that the disconnect between corporate and societal value creation is disappearing as externalities are increasingly being internalised. KPMG identifies three interconnected drivers of the increasing rate of internalisation: 1) regulation and standards; 2) stakeholder action; and 3) market dynamics. For organisations to explore the implications of these internalisation processes, KPMG (2014) sets out its True Value approach (which we label as integrated value) as a three-step process:

1. Assess the company's 'true' earnings by identifying and quantifying its material externalities. The gap between accounting earnings and 'true' earnings can be visualised in a 'true' earnings bridge, which shows several positive and negative externalities;
2. Understand future earnings at risk by analysing exposure to the abovementioned three drivers of internalisation. Think for example of higher taxes on carbon intense production (regulatory force), lost production due to stakeholder action, or lost sales

due to shortages of key inputs (market dynamics). Exposures are mapped by doing scenario analysis;

3. Create corporate and societal value by developing business cases that capture value creation opportunities and reduce risk. This involves identifying potential investments to reduce negative externalities or to increase positive externalities. For these investment opportunities, a true value net present value (NPV) calculation is done, which includes the likely future returns from internalised externalities. The outcome of that true value NPV is total financial, social and environmental value.

True Price (2014) argues that the monetisation of social and environmental externalities by a company leads to better decisions, more innovation and enhanced reputation. These are valuable effects indeed. But there are also disadvantages. First, an externality analysis is very time consuming and takes about a year to complete. As a result, few examples of an integrated value analysis have become available so far, which severely limits investor relevance. With the advance to integrated reporting this information will become more readily available (Eccles, Krzus and Ribot, 2015).

Second, the methods have been criticised for allowing pluses and minuses to be cancelled out, i.e. to compensate negative impacts with positive impacts. Third, like with the KPIs, it is not clear if strong performance on a certain externality means a sufficient contribution to achieving a more sustainable model.

### *3. Contribution to global sustainability goals*

The problem with both specific KPIs and the valuation of externalities is that it is not clear what performance is good enough. A company might do better on KPIs or have more positive externalities than peers, but that does not necessarily mean that it is doing well enough to contribute to achieving a sustainable business model. The bigger context is missing. The 17 UN Sustainable Development Goals (SDGs), discussed in Section 1, are global sustainability goals that do provide such a context.

As the SDGs were set as late as 2015, companies have only just begun to report on them. As a result, aggregate corporate data are not yet available, making it not yet possible to measure the corporate contribution to the goals. Nevertheless, Schramade (2017) argues that, even with such poor data, it is possible for investors to get a sense of the SDGs exposure of their portfolios by simply tagging companies and industries to the SDGs. This can be done by assessing whether a certain company or industry is likely to have a positive, neutral or negative impact on each of the SDGs or on a combination of SDGs. Schramade (2017) estimates that just under 20 per cent of companies and industries are SDG positive, just over 20 per cent of them are SDG negative and 60 per cent are SDG neutral. This method allows investors to assess how a company performs on the social and environmental dimension and to what extent it is prepared for the transition to a sustainable economy.

## **4.7 The ideal investment chain**

Building on our stylised investment chain in Figure 1, Figure 5 contrasts the ideal and the current investment chain. The middle column illustrates the ideal investment chain from a sustainable finance perspective. The asset owner (e.g. a pension fund or a retail client) is a

long-term investor, who cares about financial, social and environmental returns. The asset owner appoints an asset manager, who invests on his or her behalf. The asset owner asks the asset manager to report on financial and ESG returns, including carbon-related financial disclosures of the invested companies. The asset manager is also actively engaging with the company to promote sustainable business practices.

The final party in the investment chain is the company, which ideally has a board that has adopted a sustainable business model, and applies integrated reporting. Closing the circle, the integrated report provides the necessary information on financial, social and environmental values to the asset manager, who can report back to the asset owner. All parts of the chain are expected to understand the important aspects of sustainable finance and its nuances. As a result, they are not easily fooled by ratings.

**Figure 5: Ideal versus actual investment chains and their components**

Beneficiaries		
<b>Asset owner</b>	<b>Ideally</b>	<b>Often</b>
<b>Horizon</b>	Decades	Quarter
<b>Maximises</b>	$IV = FV + SV + EV$	FV
<b>Internal structure</b>	Simple and flat	Bureaucratic
<b>External structure</b>	Few asset managers and consultants	Hires many asset managers and consultants
<b>Performance metrics</b>	Sophisticated and nuanced	A few market metrics and perhaps ratings
<b>Asset manager</b>	<b>Ideally</b>	<b>Often</b>
<b>Horizon</b>	Years	Quarter
<b>Maximises</b>	$IV = FV + SV + EV$	FV
<b>Investment approaches</b>	<ul style="list-style-type: none"> <li>Consistent and transparent</li> <li>Concentrated portfolio</li> </ul>	<ul style="list-style-type: none"> <li>Do not do as they say</li> <li>Small holdings in large portfolios, close to the benchmark</li> </ul>
<b>Engagement approaches</b>	On all holdings, based on materiality and linked to investment decisions	Proxy voting and some engagement with a few holdings, unrelated to investment decisions
<b>Investee company</b>	<b>Ideally</b>	<b>Often</b>
<b>Horizon</b>	Decades, but well balanced with short run execution	Own tenure, but blame shareholders for short-termism
<b>Maximises</b>	$IV = FV + SV + EV$	FV in the sense of earnings per share
<b>Compensation</b>	Aligned with long term value creation mandate, strategy, business model and investment decisions	Based on short term metrics such as EPS; no claw-backs
<b>Reporting</b>	Integrated reporting	Traditional reporting

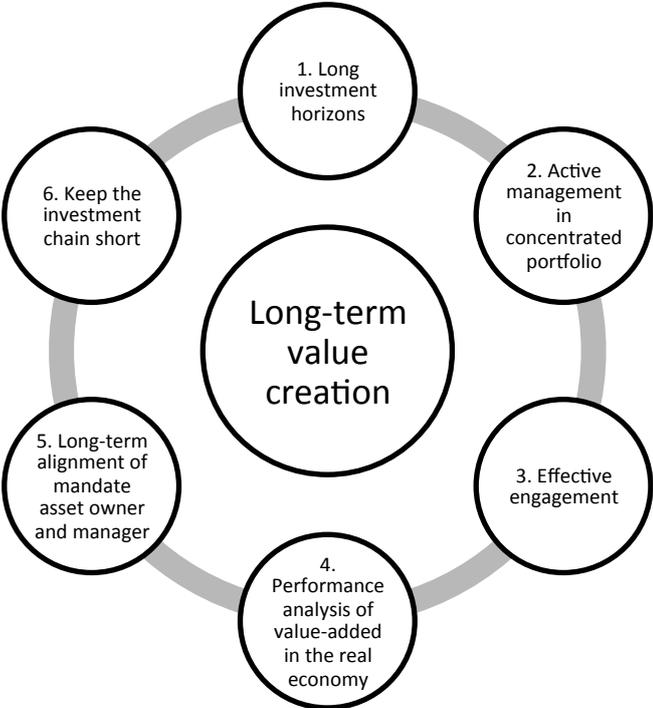
Note: IV = Integrated Value; FV = Financial Value (F), SV = Social Value (S) and EV = Environmental Value (E).

This ideal investment chain does not exist in practice, and the right column of Figure 5 is a more realistic representation of current investment chains. First, there are multiple parties in the chain: both within each nexus of the chain and across multiple nexuses (an asset manager may delegate the investment to another asset manager and so on). An example of the latter is an asset manager for a pension fund, who invests in a hedge fund or private equity. There may be so many delegates that monitoring becomes very hard. Second, performance metrics tend to be narrow. For example, the performance of the asset manager is often measured against a clearly articulated benchmark. Third, incentives are shorter term than desirable given fiduciary duty and investment goals.

**5. Conditions for investing for long-term value creation**

The previous section provides the building blocks for investing for long-term value creation. How can long-term value creation be achieved? Investors can realise long-term investment returns by investing in and engaging with companies that are capable of adding value over the long-term, thereby having a positive effect on the value of their portfolios and on society. In a survey of large shareholders in corporate governance, De Jong *et al.* (2017) distil six conditions for investors to enable them to pursue an investment strategy aimed at long-term value creation (see Figure 6).

**Figure 6: Conditions for long-term value creation**



Source: adapted from De Jong *et al.* (2017).

### *Condition 1. Long investment horizons*

With long-term value creation in mind, it does not make sense to buy stocks ‘for a ride’ of just a few months or even weeks. Rather, one should buy stocks with a multi-year horizon (5+ years), both in terms of intended holding period and in terms of confidence in the sustainability of the business model (Amel-Zadeh and Serafeim, 2018). It is important to distinguish intended holding periods from observed holding periods. The latter may simply be a result of a very passive investment stance. An active investor could have a very long intended holding period but might still decide to terminate a position early based on new long-term information (Edmans, 2017).

### *Condition 2. Active management in a concentrated portfolio*

The second condition is an active investment strategy, with a concentrated portfolio, as described in Section 4.3. That allows for the kind of in-depth fundamental ESG integrated analysis that can provide an information advantage. It is also a necessary, though not sufficient, condition for effective engagement (condition 3). Concentrated portfolios stand in contrast to the prescription of the capital asset pricing model that every investor would hold a portfolio of all securities available in the market (Elton *et al.*, 2014). Many institutional investors still partially follow that prescription by investing in passive index products. Nevertheless, there are asset owners that deviate from that prescription by investing in a concentrated portfolio (see the example of Alecta below).

### *Condition 3. Effective engagement*

The third condition is effective engagement with invested companies on the long-term, both behind the scenes by meeting with companies and in the annual general meeting by voting (McCahery, Sautner and Starks, 2016). This requires human resources, expertise and time. By building on the fundamental analysis conducted in the investment process, important synergy benefits can be reaped making engagement more effective and efficient than stand-alone engagement strategies. Early evidence shows that institutional investors have a positive impact on investee companies’ social and environmental performance (Dyck, Lins, Roth and Wagner, 2018).

### *Condition 4. Performance analysis of value-added in the real economy*

The fourth condition for long-term value creation is performance analysis based on companies’ value-added in the real economy (both financial value and social and environmental value). By contrast, a passive benchmark strategy (with minimum tracking error) does not allow (large) deviations from the market benchmark. However, the development of alternative performance measures is still in its infancy, as discussed in Section 4.6.

### *Condition 5. Long term alignment of the mandates of asset owner and asset manager*

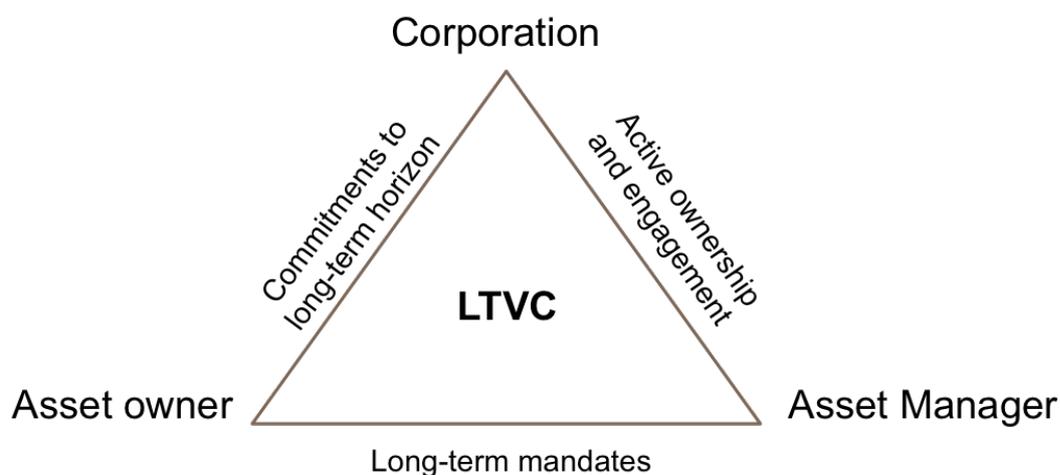
The fifth condition is alignment of the mandates of the asset owner or client and the asset manager on the long term. De Jong *et al.* (2017) indicate that asset managers are primarily motivated by their beneficiaries (asset owners or clients) to pursue long-term value creation,

but the incentives in place are often not aligned. Another important motive for long-term behaviour by asset managers is the investment belief that long-term value creation has a positive impact on shareholder returns. This belief is something that typically has to grow within asset managers, with a clear tone from the top and the right incentives for people to act upon.

*Condition 6. Keep the investment chain short*

The sixth and final condition is to keep the investment chain (between parties and within parties) as short as possible, as each player in the investment chain adds complexity, and may hold the next player accountable to a shorter period (Van Dam and Dijkstra, 2018). As a result, valuable information might be lost. The investment chain is similar to a manufacturing supply chain: outsourcing may bring benefits from specialisation, but also increases vulnerability. Figure 7 illustrates the alignment in the investment chain on long-term value creation (FCLT, 2015). The asset owner provides a long-term mandate to the asset manager and commits to a long-term horizon. The asset manager has an active ownership stake (as part of a concentrated portfolio) and engages with companies on the long term.

**Figure 7: Alignment in the investment chain on Long-Term Value Creation (LTVC)**



Source: Adapted from FCLT (2015)

Illustrating the working of the six conditions, it may be useful to provide an example. Alecta, a large Swedish pension fund with assets under management of €81 billion in 2016, applies these conditions in practice (Schoenmaker and Schramade, 2019). Alecta’s investment strategy is focused on long-term value creation. The pension fund adopts a 15 to 20 year perspective on the asset side and applies ESG integration in its investment process.

Alecta’s asset management model is based on active management of a limited number of shareholdings (104 listed shareholdings in 2016). This active management is done through independent in-house analysis, focusing on the absolute return and risks of

investments using a 5-year average. This has significant advantages compared with index management. Each investment decision is preceded by a sustainability review of the company being considered. When Alecta invests in a company, it often becomes one of the largest shareholders, which enables it to engage in a close dialogue with and influence the company in the desired direction.

Alecta's total management costs are 0.09 per cent of assets under management, of which investment management costs are 0.02 per cent. Alecta can keep its operating costs very low, because it has cut out external asset managers and consultants. Table 1 provides the asset mix and return at end-2016.

**Table 1: Investments and return at Alecta (2016)**

Investments	Market value (in EUR billion)	Share	Total return (in %)	
			2016	2012-2016
Shares	34.8	43%	7.2%	15.9%
Debt securities	40.1	50%	3.1%	4.5%
Real estate	5.7	7%	9.2%	11.8%
<b>Total investments</b>	<b>80.6</b>	<b>100%</b>	<b>5.2%</b>	<b>9.1%</b>

Source: Alecta Annual Report 2016.

## 6. Conclusions

The financial system is instrumental in achieving the transition to a sustainable economy. To fulfil that societal role, investors have to move from the shareholder model, which maximises financial value, towards the stakeholder model, which optimises financial, social and environmental value in an integrated way. This requires doing fundamental research into the investee companies. While several financial institutions aim to move to investing for long-term value creation, traditional investment approaches are still built on the concepts of efficient markets and portfolio theory. Moreover, long and complicated investment chains exacerbate the reliance on market metrics.

Efficient markets do not have social and environmental issues in their equations and leave no room for a societal allocation role of finance. Its excessive diversification creates a free rider problem in the monitoring of corporate managements. ESG ratings are developed to distinguish companies' sustainability profiles, but these external ratings are very imprecise shortcuts. Investors need to analyse the investee company and its business model for real ESG integration. The incorporation of ESG information into stock prices is an adaptive process, dependent on the number of fundamental analysts.

Long and complicated investment chains mean that incentives are distorted, meaningful information is lost along the chain and that the allocation role of finance is hampered. This paper identifies several conditions for investing for long-term value creation. These conditions do not only imply long investment horizons and active management in concentrated portfolios, but also alternative ways to measure performance, both in financial and non-financial ways. These alternative ways are available, but not yet widely used.

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