

Do Sustainable Investments Add Value?



SIRP FINAL RESEARCH REPORT, FUNDED BY MISTRA

The report provides a synthesis of the academic research conducted in the MISTRA-funded research programme. SIRP is grateful to Professor Jaap Bos of Maastricht University for writing the main parts of this report and to the researchers for making this report possible.

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EXECUTIVE SUMMARY

THE MAIN OBJECTIVE of the Mistra programme is to “find out how SI practices can create added value for institutional investors and identify barriers to mainstreaming of such practices”.

THE BOARD of the Mistra programme has concluded the following:

Yes, sustainable business practices appear to add economic value to assets and there is a “first mover advantage”. Over time, therefore, this value is likely to be mainstreamed. At the same time, sustainable business practices are likely to be moving targets, so what is a sustainable business practice is likely to evolve over time. For example, firms that strive to excel in carbon efficiency compared to what is regulated appear to have a better economic performance and this carbon efficiency is itself likely to be a moving target. As one sustainability factor is priced in, others that the market as a whole has not recognized are likely to emerge. Investors who identify these factors should continue to be able to capture advantage.

Institutional investors can accelerate this mainstreaming through stimulating three improvements:

- First, by pushing for SI-skilled asset managers: sustainable investments need investors and asset managers skilled in sustainability issues and their importance for business strategies;
- Second, by pushing for data quality: data that estimate environmental and social impacts of companies are of much too poor quality. Improving data qual-

ity is urgent and not likely to occur without pressure from institutional investors;

- Third, pushing for sustainability benchmarking of different industrial sectors. The Global Real Estate Sustainability Benchmark demonstrates the power of sophisticated and respected benchmarks. Similar benchmarks should be developed for other sectors.

These improvements are not cost free and not every institutional investor is likely to be willing to take part in this work. Getting the most out of the SI value chain requires an active, knowledgeable and discerning investor.

Some institutional investors have, on behalf of their beneficiaries, a clear view of what a more sustainable world (as contrasted to “business as usual”) might look like. Pension funds for religious societies, certain trade unions, foundations with specific missions to strive for a better world could fall into this category. Since studies show that investment portfolios using strict CSR criteria do not carry any significant losses (in adjusted expected returns) these investors should have a clear business case. These investors could play a great role in furthering the three improvements above and thereby speeding up the mainstreaming.

However, many institutional investors have a more passive view of the world of the future, perhaps because their beneficiaries are more varied and less homogeneous or perhaps because their financial professionals are themselves SI-passive. These institutional investors could nevertheless employ SRI. While the extra return on invest-



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ments may be modest, the risk (measured as volatility) is generally somewhat lower and future assets therefore somewhat more predictable. Moreover, non-sustainable business practices run increased risks of environmental spills or even disasters that can have long-lasting effects on asset values. This already appears to be priced into bond markets, where studies indicate that companies that score well on sustainability also have significantly lower capital costs. This could well be attractive for quite a large group of beneficiaries. It is also noteworthy that listed firms (in Sweden) with risk-prone board members (measured by court convictions) also take greater environmental risks.

These institutional investors can also use the methodologies and the data emanating from SRI as a basis for engagement as asset owners. This should also be attractive to those investors that have a very broad class of beneficiaries and which therefore may be hesitant to be at the leading SI edge. A sustainability oriented engagement strategy, however, is also dependent on the three needed improvements above (skills, data quality and benchmarks).

A very significant obstacle to SI appears to lie with the core values of financial professionals. While corporate practitioners and the general public have marked country specific perceptions and priorities and thus with some countries ahead of others, the financial professionals make up a much more homogenous group across borders. Put in another way: financial professionals appear to be much

more concerned about not deviating from the core professional values than about following the values of companies and beneficiaries.

Regulators should also draw clear conclusions from this programme. Regulated benchmarking of the energy efficiency of commercial properties has had a marked impact on property markets, where energy efficiency is now priced into property values. It is also rather obvious that the poor quality of data for environmental and social performance compared to economic performance is at least partly dependent on the difference in the stringency of regulations.

Finally, it is worth noting that sustainable business practices should be more advanced than the legally required practices (since all firms have to adhere to legal requirements). Corporate social responsibility should therefore by definition incorporate practices that go beyond these legal requirements. For example, environmental regulations generally grow stricter over time, as knowledge advances and technologies are developed. Firms that participate in developing advanced technologies are therefore more likely to influence the future level of regulations than more passive firms and therefore may have a first mover advantage. This has been the case in air and water pollution regulations and is likely to be the case for climate change policies for the foreseeable future.

RESEARCH SUMMARY

THE KEY OBJECTIVE of the research in MISTRA programme is ‘to find out how the use of sustainable investment (SI) practices can create an added value to investors, and identify barriers to such practice’. The research that has been carried out in the past five years has deconstructed, analysed, and reassessed the SI value chain. The result is a series of guidelines, practical implications, and suggestions aimed at improving that value chain. Broadly speaking, SI practices have been found to add value in the following four ways.

First, many of the studies carried out find that sustainable business practices add economic value to assets. Most importantly, this value is caused by an (expected) increase in positive cash flows, i.e. SIs are relatively profitable. This finding, however, needs to be put in perspective in two ways: first, as the costs involved with sustainable business practices drop, as a result of economies of scale and learn-

ing, the expected benefits from employing these practices will increase. Sustainable value (SV), i.e. the value of corporate sustainability performance expressed in monetary terms, varies widely. Institutional investors appear to be particularly well able to obtain/realize that value because of their sophistication and size. Second, as sustainable business practices become more common within certain industries, and as knowledge about these practices is more quickly disseminated, the intrinsic value of these practices is more rapidly incorporated in the valuation of the assets under consideration. Put differently, as sustainability creates value, this value is priced, and therefore does not necessarily result in higher returns. Value ‘created’ by regulation is pervasive and uncertain and should not drive investment policies, as witnessed by many experiences in energy investments. However, another way in which sustainable business practices can add value for investment firms is through repu-

tational gains. Customers of sustainable and responsible investment-oriented (investment) firms are found to be more loyal, something which certainly carries value during the present crisis.

A second major development within the SI value chain is the increasing role played by sustainability evaluations, or benchmarks. As investors seek greater transparency, and have become more and more selective, many industries have responded by ‘coming clean’ about their socially responsible investing (SRI) performance. The initial effect of this transit has been an enhanced ability of investors to select firms/assets that complement both financial performance (FP) and SRI performance. Subsequently, however, it has become clear that **SRI performance itself is part of FP**. And with increasing granularity in the development and publication of standards, investors have found a second, more enduring, way of creating value: through shareholder engagement, based on intensive benchmarking. Put simply, **the extent to which sustainable business practices can create value for investors increasingly depends, to a considerable degree, on the amount of sophistication the investor brings to the table** in this respect.

As a result, a third, and rather important, element of the SI value chain concerns the returns to SRI investing. Should an investor expect to ‘pay a price’ for being sustainable? Or should he/she expect to ‘earn a premium’, or ‘break even’ due to the value created by sustainable business practices being fully priced into the assets in which the investor invests? The research carried out in the past five years suggests that the answer is far from simple. But we can draw a few important lessons. First, **there is a key first-mover advantage: those who are willing to invest early in industry sustainability leaders have a much greater chance of earning a premium**. Second, **even when the extra returns from sustainable investing are moderate, proportional to the extra risk they are still often rather attractive**. Finally, as sustainability premiums are competed or arbitrated away over time, reputational gains become more important.

The fourth, and final, element of the SI value chain unfortunately tends to receive relatively little attention: What is the impact of SRI investing on the riskiness of the overall investment strategy? Results show that this impact is considerable, but asymmetric. The upside, in terms of **lower risk from better sustainable business practices, exists but is very often not yet priced**. An important reason for this is **the difficulty of incorporating the very long run gains often associated with these types of practices**. The downside, however, is highly visible and can be considerable. **Rare but high-impact events, such as environmental spills, bad labour practices, and poor governance, can have long-last-**

ing negative value effects. What is not yet clear is the best way in which the investor can have more control over the likelihood of these types of events through, among other things, effective shareholder engagement.

Summing up, **getting the most out of using the SI value chain effectively requires an active, knowledgeable, and discerning investor**. The bulk of the research highlighted in this document aims to provide that investor with the information needed to make smart choices. The further development we are seeing now is towards benchmarking, allowing investors to see how well companies are doing on greenness and sustainability and where they can improve, and to use this information as an engagement strategy. For the sustainable investor, this can be a way to generate value by picking a company that is not necessarily best of class but where the investor, by putting pressure on it and using his/her knowledge, can force the company to become better than mediocre.

Fortunately, it is possible to say the future is already here to some extent, in the form of the Global Real Estate Sustainability Benchmark (GRESB) as the benchmarking engagement tool for investment in green real estate. Institutional investors, including (since recently) Sweden’s AP funds, increasingly use the engagement tool to assess and improve the environmental, social, and governance (ESG) performance of companies they invest in.

A highly relevant area for meaningful benchmarking and the efficient functioning of markets for more sustainability is the availability and widespread use of reliable and comparable sustainable performance information. The research of the SV group reveals that **the quality and comparability of such information on the market today are still cumbersome, and limits are more fundamental and far-reaching when integrating the sustainability concerns of market actors**. This situation holds even for performance areas, such as global warming, that have gained widespread recognition and momentum. Future research needs to focus on providing practitioners with tools that allow for a sustainability analysis of corporate performance at a higher level of professionalism. The work on the SV approach in the MISTRA programme offers valuable starting points in this context.

The new research tools, insights, and conclusions that emerge from MISTRA’s research make it clear that the trends already emerging about the shape of the future call for the development and application of an initiative, such as GRESB, to other areas, for example microfinance and private equity to name but two, in order to serve investors with applicable SRI principles and tools in these areas as well. This will also help investors to identify the best vehicles for SRI.

Secondly, more engagement tools are needed in the shape of more benchmarks and further research into effective benchmarks. This is a key requirement for effective

engagement whereby investors can actually influence the vehicles they choose in order to achieve SRI.

MISTRA

MISTRA, the Foundation for Strategic Environmental Research in Sweden, invests in research of strategic importance for a healthy living environment and for sustainable development (SD). The research is intended to contribute to Sweden’s future competitiveness.

The MISTRA programme helps solve important environmental problems. The researchers attached to the programme therefore work in continuous and close dialogue with practitioners from companies, government agencies, policy makers, international policy negotiators, and non-governmental organizations (NGOs) in order to ensure that their research results are useful and applied for achieving SD. MISTRA aims to be a leading initiator of groundbreaking research that prevents or solves significant environmental problems.

Through their investment decisions and engagement activities, **institutional investors** have the potential to influence company behaviour towards more SD once a number

of obstacles to mobilizing this potential have been overcome. The main objective of the MISTRA programme is to find out how SI practices can create added value for institutional investors and identify barriers to mainstreaming such practices. In addition, ways to overcome such barriers are devised and tested. SI aspires to contribute to a business case as well as to SD. MISTRA moved early to become an SRI investor.

The vision of the MISTRA-funded research programme Sustainable Investments sees institutional investors eventually taking a leading role in promoting SD and using their influence to change the behaviour of companies in which they invest.

While institutional investors are the main targets of the research, the SIRP research programme supports all actors in the institutional value chain: owners, trustees, fund managers, directors, CEOs, and other stakeholders (see Figure 1 on page 8).

SIRP

AS NOTED ABOVE, the key objective of the MISTRA programme Sustainable Investment Research Platform (SIRP) is ‘to find out how the use of sustainable investment practices can create an added value to investors, and identify barriers to such practice’; the chief target

group being mainstream institutional investors. The programme sets out to attain conceptual clarification and an operational definition of SI in relation to SD. Based on more-stringent definitions, the profitability of SD practices at company level is investigated, as is adhering to a

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more restrictive set of SI rules at investor level. To evaluate potential shortcomings of current practice, present-day SI strategies for different asset classes will be evaluated against new SD standards.

The programme also aims to explore how SI could be promoted within an investment organization and, ultimately, incorporated in internal investment criteria. Organizational barriers are investigated and facilitators of SI proposed. The programme looks at policies and mechanisms for promoting SI among institutional investors, addressing the particularly relevant question of whether investors with a SI profile can influence non-SI investors to follow their lead. The results of the programme will produce a set of recommendations and proposals for new regulatory guidelines.

RESEARCH PARTICIPANTS

THE FOLLOWING UNIVERSITIES are participants in the MISTRA-financed programme: Umeå School of Business and Economics (USBE), Umeå University, Sweden; the Department of Psychology, University of Gothenburg, Sweden; Åbo Akademi University, Turku, Finland; University of Rome 'Tor Vergata', Italy; University of Perugia, Italy; the European Centre for Corporate Engagement

Knowledge generated within the programme is useful to institutional investors as well as to relevant industry groups, regulators, financial analysts, beneficiaries, and customers. Among institutional investors, the results are particularly relevant to trustees and fund managers who may be considering adopting or advancing SI principles. The programme also serves the research community, contributing to the development of behavioural and sustainable finance as modern research areas. It contributes to applied research in the value chain of the financial markets by including sustainability disclosures and equity valuation, the behaviour of financial analysts and other actors in the value chain, as well as portfolio selection based on sustainability criteria.

(ECCE), Maastricht University (UM), the Netherlands; and the SV group with researchers from the University of Leeds in England and Euromed Management School in Marseille, France.

RESEARCH SYNOPSIS

Sustainable Investment Flow

In the last four years, SIRP has resulted in a highly successful string of publications and presentations on SI. In this document, we present an overview of the research carried out under the MISTRA umbrella. From the outset, it is important to emphasize that given the abundance of research carried out, this document has to focus on the most important publications and presentations.

A Structural Framework

Before we venture into the highlights of the SIRP research outputs, in this section we present a structural framework that captures the research carried out as part of the MISTRA-funded programme. The framework is summarized in graphical form in Figure 1 on page 9.

The unique feature of the MISTRA programme is the fact that the research conducted covers virtually the entire SI flow. This investment flow starts with the investment value chain (*A*) in the top-left corner of the diagram. Key elements of this chain include the effect of asymmetric information on investors (*A1*) and investor representatives (*A2*), as well as the incentive alignment of each of the parties in the investment value chain (*A1–A4*). This part of the research is largely in line with other existing research.

Stakeholder Interaction

Investors, however, interact with other stakeholders (*B*), as shown in the bottom-left corner of the diagram. Other stakeholders include beneficiaries (*B1*), NGOs (*B2*), governments (*B3*), and others (*B4*). Whereas the objectives of investors, even in an SI context, are relatively straightforward to define, identifying and conceptualizing the various incentives of other stakeholders in the same context are much less straightforward. This identification is key to these stakeholders, as they too are under more and more pressure to demonstrate the effectiveness of their actions.

SRI Investment

The most fundamental flow of information—and funds—is shown in the diagram by the SRI flows from investors to the assets in which they invest (AC_{invest}). For a long time, the choice of assets to invest in has been the key defining element of an SRI investment strategy. When the concept of SRI first gained ground among institutional investors, responsibility was taken to mean the exclusion of 'bad' assets, or sin stocks, such as cluster-bomb makers. While this appeared a reasonable initial position, research has shown it does not always work and if pension funds pull out of sin stocks, the return on their shares can actually go down. The second stage to emerge has shown a shift from avoiding sin stocks to favouring green stars.

SRI Reporting

In the presence of asymmetric information, firms (and other types of assets) have a strong incentive to signal their SRI characteristics to investors as well as to other stakeholders.

This is where SRI reporting (AC_{report}) on ESG factors comes in. By signalling their above-average ESG scores in a credible way, firms (and other assets) can reduce asymmetric information, and as a result can hope to lower financing costs and boost their reputation.

The key to successful signalling, however, lies in credibility. How can firms (and other assets) signal their SRI credentials in a credible way? An important way of establishing credibility is by adhering to an external benchmark. In fact, as part of the MISTRA programme, a benchmark for green real estate has been established, which has been proven to be extremely successful.

MISTRA Research Areas and the Sustainable Investment Flow

The extent to which there is asymmetric information (*C3*) between investors and firms (and other assets) is, however, not the only defining characteristic (*C*). As

shown in Figure 1, other characteristics include the extent to which assets contribute to investors' diversification strategies (C_1), the payback of assets' cash flows (C_2), negative (and possibly positive) externalities generated by the assets (C_4), and, finally, the extent to which opportunity costs (C_5) play a role in the investment decision. Research conducted as part of SIRP has shown that each of these characteristics has SRI elements. By avoiding certain assets (sin stocks) or investing more heavily in other assets (green stars), investors hope to rely on those characteristics. They need reliable information, and increasingly require an analysis of how this information affects the bottom line, i.e. the risk (E) and return (D) for the asset.

MISTRA Research Areas and Other Stakeholders

Investors are not, however, the only stakeholders affected by these characteristics. Negative externalities (C_4), such as pollution, are high on the agenda of other stakeholders, such as NGOs (B_2) and national or local governments (B_3). Related to the decision to invest in certain assets and not in others, investors incur opportunity costs (C_5). These opportunity costs can often be said to result in net SRI gains and losses for other stakeholders, for example an investment in a firm that has an excellent track record when it comes to pollution. By NOT investing in a

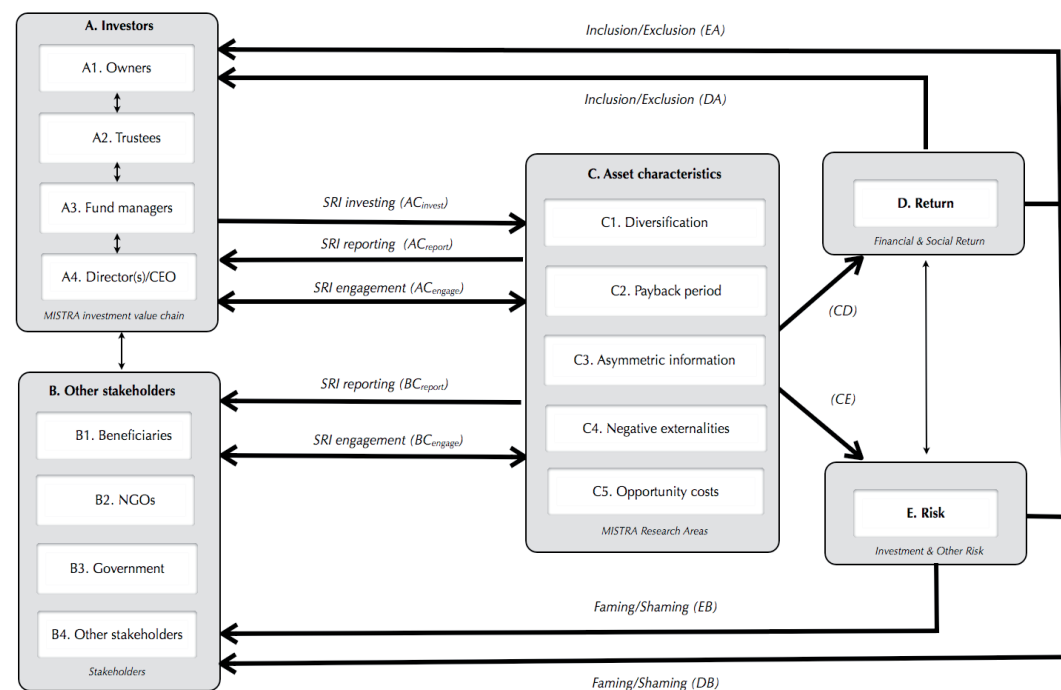
more polluted competitor (C_4), the investor has, through his/her investment decision, affected the situation of other stakeholders.

The same can be said for the payback period (C_2). The shorter the investment horizon, in many cases the more difficult it is for an investment to be sustainable; sustainability is, by definition, about long-term investment. Aligning the investment horizon—and thereby the payback period—for all the investors with the relevant horizon of other stakeholders improves the latter's well-being. Finally, a clear example of the positive impact of the diversification effect (C_1) on other stakeholders would be the increase in or sustaining of eco-diversity that could result from certain SIs, for example investments in agricultural products that require less fertilizer and/or insecticides. Summing up, aligning investors' interests and other stakeholder interests is far from easy.

SRI Engagement

An interesting aspect of the research carried out as part of the MISTRA programme is the fact that asset characteristics themselves can be the result of an SRI investment strategy. What does this mean? Contrary to the traditional investment view, more and more research finds that investors, through their investment decisions, affect the risk and return of the firms (and other assets) they invest in.

Figure 1: SI Flow



Put differently, investors are sometimes non-atomistic: rather than being price takers who view the markets and make decisions *given* the risk and return properties observed for different investment opportunities, investors themselves *influence* these very same risk and return properties through their actions. This influence occurs in two ways.

From Unintended Impact . . .

First of all, there is the unintended influence. An important example from the SRI literature comes from a recent paper by Kacperczyk and Hong (2009).¹ They find that, as a result of their exclusion in many institutional investors' portfolios, sin stocks actually have higher expected returns than otherwise comparable stocks. In their words, 'norms affect stock prices and returns' (Kacperczyk and Hong, 2009). Put simply, by excluding sin stocks, investors can then actually lower the financing costs of those firms, rather than increasing these costs.

. . . To Intended Impact

Of growing importance, however, is the intended influence: through their actions, investors and other stakeholders can increasingly influence the above-mentioned asset characteristics, and thereby also risk and return. This—generally—intended influence has far-reaching consequences. For example, an active investor may opt for an investment strategy that is no longer based purely on exclusion or inclusion. Rather, an active SRI investment strategy involves selecting firms (and other assets) where the investor can most effectively *change* characteristics, risk, and return in his/her favour. In short, the investor starts to engage with the firm.

Engagement Changes the Sustainable Investment Flow

Engagement literally changes the picture: most of the relationships in Figure 1 have now become dynamic. Low returns, for example, can lead to increased requests for reporting. Likewise, many SRI engagement efforts are aimed at reducing asymmetric information and increasing transparency, thereby giving the investor a possible competitive edge. SRI engagement is not exclusively an affair for investors either: other stakeholders, through the presence of publicly available information, self-reporting,

and other types of newly available information, have also started to engage with firms more and more. And even between investors and other stakeholders, engagement on SRI issues has become increasingly commonplace.

SRI Engagement in SIRP

These developments are all reflected in the research carried out as part of the MISTRA programme. On the one hand, the resulting picture is—quite literally—more complex as a result, and on the other hand, however, by providing academically sound evidence on the need for, and effectiveness of, an active SRI strategy, we believe SIRP has increased its contribution to the investor community.

In the following pages, we describe the most important research carried out under the MISTRA umbrella, using the framework laid out in Figure 1. We show that each of the successful research projects that are part of the programme constitutes a piece of the puzzle that, when put together, forms virtually the entire framework for a SI flow.

NOTE: In the research highlighted below and also in the lists of key articles in the appendix, codes are used to indicate how the research fits in with the SI flow in Figure 1.

1 M. Kacperczyk and H. Hong, 'The Price of Sin: The Effects of Social Norms on Markets', *Journal of Financial Economics* 93 (2009), 15–36.

REVIEW OF RESEARCH HIGHLIGHTS

I SRI Investing ($AC_{investing}$)

THE BULK OF THE RESEARCH in SIRP explores the way in which investors choose to invest, including aspects of asset characteristics (C1–5 in Figure 1), how the environmental performance (EP) and social performance (SP) of potential investments can be identified, and how this relates to FP.

ESG performance has for some time attracted close attention around the world and is becoming the focus of many companies, investors, financial analysts, and accounting policy makers. An important question for investors is whether a good performance in these dimensions is reflected in the market valuation of listed companies.

A paper co-authored by **Natalia Semenova** (Åbo Akademi University), **Lars Hassel** (USB), and **Henrik Nilsson** (Stockholm School of Economics), ‘**The Value Relevance of Environmental and Social Performance for SIX 300 Companies**’, *Finnish Journal of Business Economics* 60 (4) (2011), 265–92, provides insight into how EP and SP are reflected in the market value of listed 300 SIX companies on OMX Stockholm. The paper received the Outstanding Research Award at the Global Conference on Business and Finance in Puerto Rico in 2009.

Most of the previous research has been limited to US- and UK-based companies in the MSCI World Index. In Sweden, the environmental and social concerns of the government and labour unions impose powerful and unique regulatory and legal constraints on company activities. Institutional investors, such as the Swedish state pension funds, and the Swedish Society of Financial Analysts have provided guidelines for the integration of EP and SP into the investment process. According to the researchers’ model, FP alone does not explain the market value of the companies: the value relevance of financial statement data is enhanced if it is combined with EP or SP that has been compiled into company ratings.

A key distinction of this study is that it also investigates both EP and SP at disaggregated levels. Previous studies have been inconclusive on the social dimension, and the

effect of mixed attributes does not relate SP to the market value at the aggregate level. In order to understand the value relevance of SP, the sub-dimensions of employee, community, and supplier relations have to be separated. By applying the Ohlson valuation model (1995), market value of equity is expressed as a function of book value of equity, accounting earnings, and EP and SP, where the last two variables are the proxies for other value-relevant information. Empirical evidence from the SIX 300 Index of Swedish companies is provided by using the GES Investment Services risk rating for the period 2005–2008 for both EP and SP scores and their sub-dimensions.

The paper suggests that EP and some dimensions of SP are reflected in the market value of large- and medium-cap companies on OMX Stockholm during the 2005–2008 period. Financial markets have started to integrate the extra FP into the investment decisions. A relatively weak effect of extra FP indicates that the stock market had not yet fully valued environmental and social intangibles. With increased environmental awareness and a more full-scale pricing of externalities, the value relevance of EP and SP is likely to increase in the financial markets in the future. In addition, this paper suggests that the integration of the extra-financial value approach into traditional financial investment analysis provides a richer picture of the long-term corporate performance.

Research on an unusual possible ‘sin company’ component, criminal convictions among management, suggests that firms should put more emphasis on personal characteristics when appointing directors and senior executives. In a SIRP working paper entitled ‘**Criminal Convictions, Governance, and Corporate Performance**’ (2011) by **Eli Amir** (London Business School), **Henrik Nilsson** (Stockholm School of Economics), and **J-P. Kallunki** (Oulu Business School), an analysis of a unique proprietary data set reveals that non-trivial proportions of directors of the board and CEOs in Swedish listed companies have been convicted of crimes, and these appear to be more prone to take

risks. Firms appointing directors and CEOs with criminal convictions are, on average, smaller and less profitable, report more-volatile earnings, have more goodwill write-offs due to unsuccessful acquisitions, and are less timely in recognizing bad news in earnings. A follow-on study on the same data also demonstrates that when the proportion of board members who have broken the law increases, the firms take greater environmental risks and become less sustainable (**Hassel, Nilsson, and Kallunki, 2012**).

In a project on SD in Swedish industry, **Tommy Lundgren** (USB) tackles the question of the impact of stringent environmental policy on firms’ competitiveness and profitability, on which there is no scientific consensus. From the traditional ‘static’ point of view, productivity losses are to be expected. On the other hand, the so-called Porter hypothesis suggests the opposite, that due to ‘dynamic’ effects, ambitious climate and energy policies could actually be beneficial to firms in terms of enhanced profitability and competitiveness. The study ‘**Climate Policy and Profits**’ is based on Sweden’s manufacturing industry from 1990 through 2004 and specifically assesses the dynamic effects of the Swedish CO₂ tax on company profitability. The empirical methodology is based on stochastic frontier estimations and the results confirm the Porter hypothesis for some sectors, while rejecting it for others. Thus, in general, the argument that stringent environmental policy has positive dynamic effects that offset cost related to environmental policy is not corroborated.

In another study, EP is analysed at company level, including the effectiveness of environmental policy along with other possible determinants. In particular, the empirical analysis aims to explore the relationship between the actual EP of firms in terms of CO₂ emissions per output unit, and one aspect of Swedish environmental policy, the CO₂ tax. To achieve this objective, a panel data of Swedish manufacturing spanning the 1990–2004 period is used. The results suggest that EP has improved in all manufacturing sectors. The study also shows that production actually increases, while emissions decrease in many sectors, indicating a decoupling of economic growth and environmental degradation. Furthermore, companies’ EPs respond both to changes in the CO₂ tax and the fossil-fuel price, but are more sensitive to the tax, indicating different EP behaviour among firms, depending on why the cost of fossil fuels changes. Several sectors display a positive tendency over time in EP, which may suggest that EP is, to some extent, stimulated by an overall boost in environmental awareness in society and among firms.

Finally, the question of how company-level EP affects company-level economic performance is investigated.

The novel idea in this study is to look at actual economic and EP, thus refraining from using financial proxies and ad hoc company ratings. From an analysis of Swedish manufacturing firms in the 1990–2004 period, the results show that EP induced by government environmental policy is not a determinant of PE, while voluntary or non-policy-induced EP seems to have a significant (positive) effect on company EP in most sectors. The evidence generally supports the idea that good EP is also good for business, as long as EP is not induced by policy measures, in this case a CO₂ tax. In other words, firms’ voluntary actions to be more carbon efficient appear to be integrated with economic performance.

Under the Sustainable Investment Portfolios research heading, the **Sustainable Investment Portfolio Management** project, by **Rickard Olsson** (USB), **Stefano Herzel** (University of Rome ‘Tor Vergata’), **Marco Nicolosi** (University of Perugia), and **Catalin Starica** (University of Neuchâtel), addresses head-on the main objective of the MISTRA programme: ‘to find out how sustainable investment practices can create added value for institutional investors and identify barriers to mainstreaming such practices’. Moreover, ways to overcome such barriers are devised and tested.

According to prior research, sustainable mutual funds appear to perform no worse than other mutual funds, and sustainable funds constructed by researchers often display positive risk-adjusted returns. A common argument against SI strategies, however, is that their risk-factor exposures and tracking errors (TEs) exceed the levels typically accepted by institutional investors. In response, the project examines the FP of equity portfolios constructed to satisfy rigorous sustainability criteria as well as typical institutional risk-management constraints.

Olsson (2007) investigates the performance of US stock portfolios constructed and rebalanced to have different environmental (EV) risk using EV risk ratings from GES Investment Services. The empirical findings indicate that a portfolio of stocks with low EV risk, intended to be more responsible, performs neutrally when subject to control by risk and other factors using a Carhart model and industry factors.

Herzel, Nicolosi, and Starica (2012) study the impact of different types of sustainability constraints on the mean variance efficient frontier. The results show that investors can constrain their investment portfolios by applying CSR criteria without significant losses in terms of adjusted expected returns. As regards the benefits for practitioners, the research helps to quantify the impact over time of different kinds of social screening. It is important for an investor who wants to exclude some assets from his/her portfolio because they do not satisfy some responsi-

bility criteria and also gives an estimated cost of such an exclusion.

Olsson (2010 and 2011a) provides empirical evidence on how minimum TE varies with the stringency of a sustainability criterion based on EV ratings from KLD and GES Investment Services, respectively, for large capitalization US firms. For the GES data set, minimized TE volatility relative to the S&P 500 Index goes from 0.4% p.a. for a portfolio created from the four hundred stocks with the highest EV ratings to 4.6% p.a. for a portfolio created from the twenty highest-rated stocks. Qualitatively similar results were obtained for the KLD data set.

When factor exposures and TEs are controlled for, by using portfolio optimization and factor models, Olsson (2011b) examines how risk-adjusted performance varies with portfolio sustainability (screen stringency). A combination of positive and negative screening is used. This is done for many levels of portfolio sustainability and across all areas of sustainability covered by KLD ratings. The portfolios are long only since many investors are precluded from taking short positions.

The main findings on S&P 500 stocks with KLD ratings for 1992–2010 are encouraging for sustainable equity investing. Most sustainable funds return more than the S&P 500. Most factor neutral sustainable funds enjoy statistically significant positive Carhart alphas and generally outperform equal- and value-weighted portfolios. No sustainable portfolio has a significant negative alpha. Optimization reduces factor exposures and TE relative to equal and value weighting. Moreover, results obtained on additional sustainable strategies, including *best-in-class* screening, multidimensional screening, and portfolio sustainability, scored maximization, reinforcing the main findings and clearly indicating that it is possible to achieve strong FP while meeting demanding sustainability criteria as well as typical institutional risk and TE constraints.

Furthermore, the empirical findings on the performance, risk, and TE of different sustainable strategies should be helpful both in formulating investment objectives and in the performance evaluation of sustainable funds.

Looking at professional analysts' forecast errors, **Leonardo Becchetti**, **Rocco Ciciretti**, and **Alessandro Giovannelli** (University of Rome 'Tor Vergata') wrote a paper entitled '**Corporate Social Responsibility and Stock Market Efficiency**'. They investigated the relationship between corporate social responsibility (CSR) and I/B/E/S analysts' earnings-per-share (EPS) forecasts using a large sample of US firm forecasts for the 1997–2004 period. The research shows that the net difference between CSR strengths and weak-

nesses significantly reduces both the absolute forecast error on EPS and its standard deviation after controlling for standard regressors plus year, industry, and firm/broker effects. The findings are consistent with the hypothesis that reduced transaction costs (and conflicts) with stakeholders and more-transparent accounting practices implied by CSR significantly affect the bias. The CSR effect is strongly asymmetric and mainly driven by CSR weaknesses, consistent with the fact that the predicted channels of influence are predominantly captured by CSR weakness scores. A crucial aspect of their findings is that CSR helps make financial markets efficient as unbiasedness and efficiency are (in almost all specifications) not violated in the subsample of the top 20 per cent (lowest CSR weaknesses) companies, while they are in the bottom 20 per cent CSR companies.

CSR has been generally considered in the literature as something unconventional with respect to mainstream financial theory, postulating the maximization of shareholders' wealth and supporting the efficient market hypothesis. The paper documents that this perception is wrong: CSR seems indeed to bring markets closer to efficiency since it significantly reduces the earnings-forecast bias and the variability of analysts' forecasts. The robustness of the findings is documented in two ways: (i) CSR includes the adoption of more-transparent accounting practices which reduce informational asymmetries and, with them, both variability and the absolute value of the earnings-forecast bias; and (ii) CSR involves the minimization of controversies and conflicts with stakeholders, which are an additional source of shocks which may affect corporate profitability, thereby increasing its variability. Consistent with the fact that the two above-mentioned factors, which are more likely to impact on results, are reported among CSR weaknesses, the test whether the CSR impact is asymmetric finds that it is the case since significance is concentrated on the negative CSR side. In order to verify more closely the relationship between CSR and market efficiency, the paper performs unbiasedness and efficiency tests on the top twenty and the bottom twenty firms in terms of CSR weaknesses. Efficiency and unbiasedness are not rejected for the first group, while they are for the second.

The findings contribute originally to the controversy on the relationship between the earnings-forecast errors and the efficient market hypothesis. Consistent with the Keane and Runkle (1998) conclusion that earnings forecasts are unbiased once correcting for discretionary special charges, the results further qualify this point, showing that CSR weakness criteria and implications play a crucial role to discriminate between biased and unbiased earn-

ings forecasts and may therefore become a reference for investors on this issue.

The paper received widespread attention and was a top-listed paper on several Social Science Research Network lists, including

- Corporate Governance & Finance eJournal;
- Corporate Governance: Social Responsibility & Social Impact eJournal;
- Microeconomics: General Equilibrium & Disequilibrium Models of Financial Markets eJournal.

Under the Company Performance and Sustainability research heading, a project entitled '**Value-based Sustainability Analysis of Nordic Companies**', led by **Frank Figge** (Euromed Management School), **Tobias Hahn** (Euromed Management School), and **Ralf Barkemeyer** (University of Leeds), provides a value-based environmental sustainability analysis of Nordic companies using the SV approach. It gives a quantitative monetary assessment that integrates EP and FP. By using and extending the notion of opportunity costs to resources other than economic capital, this research offers a two-fold advantage to SI decision making. First, it provides an assessment of EP that is fully compatible with the standard investment logic applied to financial markets today for the allocation of financial capital. It is widely accepted that companies generate economic value when they outperform the market in terms of return on capital and thus earn the opportunity costs of capital. The SV approach used in this research assesses EP in an analogous way. The research shows not only which Nordic companies generated economic value by covering their cost of capital, but also which companies covered the opportunity cost of their CO₂ emissions. Only companies that outperform the market in terms of return on CO₂ emissions generate CO₂ value or—generally speaking—environmental value. Both assessment dimensions—financial and environmental—follow the same logic and provide monetary results.

Second, the analysis helps to overcome the domination of FP over EP currently found in the SRI literature and practice. In other words, the assessment allows for an integration of FP and EP on a par. Based on the analysis presented here, investors can avoid biased choices that favour financial outcomes over EP. In this study, the authors test the practical relevance and feasibility of such an analysis in a Nordic context by analysing the integrated FP and EP of eighty-nine Nordic companies over five years.

The SV approach used in this study has already been applied in other contexts to some 350 companies. Recent-

ly, it has gained high-profile recognition by winning the Idea Competition 'Sustainable Corporate Governance: Cost Consciousness—Business Benefits' launched by the German Council for Sustainable Development and the sportswear company PUMA SE in April 2012. It will be one of the policy recommendations for the 'Green Economy' policy of the German Federal Government. At the same time, the SV approach has received considerable press coverage in newspapers (among others, *Financial Times Deutschland*, *Frankfurter Allgemeine Zeitung*, and *La Tribune*), TV, and radio.

The paper by **Frank Figge** (Euromed Management School) and **Tobias Hahn** (Euromed Management School) '**Is Green and Profitable Sustainable? Assessing the Trade-off between Economic and Environmental Aspects**' was published in the *International Journal of Production Economics* (2012). Noting that businesses are increasingly confronted with demands to play an active role in reducing environmental burdens effectively and helping to achieve environmental sustainability, the researchers question the suitability of the green business case and argue that corporate environmental strategies need to aim at the creation of environmental value alongside economic value rather than the creation of economic value through environmental management. Three shortcomings of the green business case limit its usefulness for developing a suitable corporate sustainability strategy. The green business case is contrasted with an opportunity-cost-based approach for assessing the EP of firms. The researchers then apply their argument to an integrated analysis of the financial, carbon, and volatile organic compounds performance of sixteen major car manufacturers worldwide to illustrate how companies respond to the twofold scarcity of economic capital and natural resources as well as the role of proactive technology choices in this context.

The analysis shows how firms can go beyond the standard green business case that ultimately limits environmental strategies to increasing capital efficiency. The researchers argue that by applying the well-established notion of opportunity costs to the assessment of environmental resources, besides economic capital, companies can identify strategies that create economic and environmental value and help to maximize the contribution to sustainability rather than to economic capital efficiency alone.

Furthermore, **Tobias Hahn** (Euromed Management School) and **Frank Figge** (Euromed Management School) published a paper entitled '**Beyond the Bounded Instrumentality in Current Corporate Sustainability Research: Toward an Inclusive Notion of Profitability**', *Journal of Business Ethics* 104 (3), 325–45. In their paper, they argue that the majority of the current approaches in research on corporate sustain-

ability are inconsistent with the notion of SD. By defining the notion of instrumentality in the context of corporate sustainability, they show that current approaches are rooted in a bounded notion of instrumentality, which establishes a systematic a priori predominance of economic organizational outcomes over environmental and social aspects. The authors propose an inclusive notion of profitability that reflects the return on all forms of environmental, social, and economic capital used by a firm. This inclusive notion of corporate profitability helps to redefine it as if sustainability matters, in that it overcomes the bounded instrumentality that impairs current research on corporate sustainability. They apply this notion to different car manufacturers.

As a main conclusion, this paper reveals the inadequacy of the prevailing notion of corporate sustainability as repackaged business as usual. At the same time, the paper does not go from one extreme to the other by outlining a sustainable heaven or calling for a green utopia. In contrast, by accepting profitability as one of the very drivers of corporate decision making in a market economy and by falling back on the well-established concept of opportunity costs, the authors develop an inclusive notion of corporate profitability that includes the business imperative for efficiency but broadens the conventional perspective by integrating environmental, social, and economic forms of capital without any a priori predominance.

The argument put forward in this paper offers SRI investors and analysts the toolset and logic to go beyond business as the usual thinking inherent in the green business case. This approach offers practitioners the possibility to transcend the narrow focus on return on economic capital and integrate different sustainability perspectives at an equal level into their decision making without abandoning established valuation and assessment techniques.

Furthermore, a **Frank Figge** and **Tobias Hahn** article, ‘**Not Measuring Sustainable Value at All**’, appeared in *Ecological Economics* 69 (2009), 244–49. Along with **Andrea Liesen** (Institute for Futures Studies and Technology Assessment) and **Ralf Barkemeyer** (Queen’s University Management School), they also published a paper in the *Journal of Environmental Management* 91 (10), 1997–2007, namely ‘**Opportunity Cost Based Analysis of Corporate Eco-efficiency**’.

A working paper with an eye-catching title, ‘**Some Men Invest Like Women: The Influence of Social Values on Investment Decisions and Investor Loyalty**’, **Rob Bauer** (UM) and **Paul Smeets** (UM) won the 2010 Best Paper Award by the United Nations Principles of Responsible Investments. The researchers noted that although there is a great deal of evidence that investors with distinct observable char-

acteristics invest differently, little is known about heterogeneity in the decision making of investors. They specifically address this issue by using a novel methodology to ex ante classify investors into different segments based on their latent decision making. Unique data from two banks that offer SRI mutual funds to individuals was collected. The risk and social preferences of individual investors have been further outlined by **Paul Smeets** (2012) in his doctoral dissertation at UM.

The main conclusions are, firstly, that investors are heterogeneous in their decision making and this heterogeneity cannot be fully explained by observable characteristics. In general, wealthy males either chase past returns or focus on management fees, but males who are values driven can also be identified. Secondly, heterogeneity in the decision making of different investors has consequences for investor loyalty too: past-returns chasers and fee-sensitive investors are less loyal than values-driven investors. The methodology yields similar results for both banks, showing the robustness of the findings.

In this section, the research on the economics of green buildings and energy efficiency in buildings is especially highlighted.

First, ‘**The Economics of Green Building**’ by **Piet Eichholtz** (UM), **Nils Kok** (UM), and **John M. Quigley** (University of California [UC], Berkeley). Research on climate change suggests that small improvements in the sustainability of buildings can greatly affect greenhouse gas emissions and energy efficiency in the economy. The paper analyses the economics of ‘green’ building.

The researchers first analyse a panel of office buildings certified by independent rating agencies, finding that large recent increases in the supply of green buildings and the unprecedented volatility in property markets have *not* significantly affected the relative returns to green buildings. Second, a large cross-section of office buildings is analysed, demonstrating that economic premiums in rent and asset values of buildings certified for energy efficiency are substantial. Third, the economic premiums for green buildings are related to their relative efficiency in energy use, documenting the finding that the attributes rated for *both* thermal efficiency and sustainability contribute to premiums in rents and asset values. Even *among* green buildings, increased energy efficiency is fully capitalized into rents and asset values.

Another paper, ‘**The Diffusion of Energy Efficiency in Building**’, by **Nils Kok** (UM), **John M. Quigley** (UC Berkeley), and **Marquise McGraw** (UC Berkeley), notes that awareness of global warming and the extent of greenhouse gas emissions has focused more attention upon energy efficiency in building. Moreover, the inventory of green office

space in the United States has increased dramatically since the introduction of rating schemes that attest to the energy efficiency or sustainability of commercial buildings. In some metropolitan areas (MAs), the supply of certified office buildings has more than doubled in the last decade, and there are a few MAs where green office space now accounts for more than a quarter of the total office stock.

In this paper, the researchers analyse the diffusion of buildings certified for energy efficiency across US property markets. Using a panel of forty-eight MAs observed over the last fifteen years, the diffusion of green building practices is traced across the country. The geographic patterns and dynamics of building certification are then modelled, relating industry composition, changes in economic conditions, characteristics of the local commercial property market, and the presence of human capital to the cross-sectional variation in energy-efficient building technologies and the diffusion of those technologies over time. Understanding the determinants and the rate at which energy-efficient building practices diffuse over space and time is important for designing policies to affect resource consumption in the built environment.

A pioneering paper, ‘**Doing Well by Doing Good? Green Office Buildings**’, *American Economic Review* 100 (5) (2010), 2394–2511, from the same team as ‘The Economics of Green Buildings’, **Piet Eichholtz** (UM), **Nils Kok** (UM), and **John M. Quigley** (UC Berkeley), has attracted a whole slew of awards:

- 2011 IPE Award for Outstanding Industry Contribution
- RERI Research Grant, Real Estate Research Institute, Chicago
- 2010 VENI grant (€250,000), Dutch Organization for Scientific Research (NWO) Project: ‘The Economics of Energy Efficiency’.
- IPE Award for Outstanding Industry Contribution.
- Best Paper Award, United Nations Principles for Responsible Investment.
- 2009 Best Paper Award, Property Research Quarterly
- 2009 Best Paper Award, Academy of Management, Organizations and the Natural Environment Division.
- Best Dissertation Award, Aareal Bank & European Business School.
- European Award for Best Dissertation on Finance and Sustainability, French Social Investment Forum.

This paper provides the first systematic analysis of the impact of environmentally sustainable building practices on economic outcomes as measured in the marketplace. The researchers concentrate on commercial property, and investigate the relationship between investments in energy efficiency in design and construction and the rents, the effective rents (that is, rents adjusted for building occupancy levels), and the selling prices commanded by these properties. A large sample of buildings are analysed, some of which have been certified as more energy efficient by independent and impartial rating services.

A national sample was assembled of US office buildings that had been evaluated for energy efficiency by one of two leading agencies. For each building, a control sample of nearby office buildings was identified. For some 10,000 subject and control buildings, contract rents, effective rents, and selling prices were related to a set of objective hedonic characteristics of buildings, holding constant the locational characteristics of properties. The research finds that buildings with a ‘green rating’ command rental rates that are roughly 3 per cent higher per square foot than otherwise identical buildings—controlling for the quality and the specific location of office buildings. Premiums in effective rents are even higher—above 7 per cent. Selling prices of green buildings are higher by about 16 per cent.

Beyond the average price or rental premium, the methodology also permits the researchers to estimate the increment for each ‘green building’ relative to the control buildings in its immediate geographic neighbourhood. One finding, for example, is that the relative premium for green buildings is higher, *ceteris paribus*, in places where the economic premium for location is lower. That is, the per cent increase in rent or value for a green building is systematically greater in smaller or lower-cost regions or in less expensive parts of MAs.

As noted above, research on climate change suggests that small improvements in the sustainability of buildings can greatly affect greenhouse gas emissions and energy efficiency in the economy, but this also raises the question whether there is a business case for investing in the energy efficiency or sustainability of building in the present market. The paper ‘**Doing Well by Doing Good: Green Office Buildings**’ provides the first rigorous assessment of the financial implications of energy efficiency in building, finding that there is strong evidence to support the notion that green building is financially, and not only environmentally, responsible. The paper approaches the issue by examining the EP and FP of a large sample of US commercial properties, documenting the fact that premiums in rent and asset values for more-energy-efficient build-

ings are substantial, and that specific techniques intended to provide environmental benefits directly translate into economic benefits.

The findings of this research have implications for investors and developers of commercial office buildings. Green building now accounts for a considerable share of the market for office space. Measured attributes of sustainability and energy efficiency are incorporated in property rents and asset prices, and this seems to persist through periods of volatility in the property market. These developments will affect the existing stock of non-certified office buildings. The findings already suggest that property investors attribute a lower risk premium for more-energy-efficient and more-sustainable commercial space. Rated buildings may provide a hedge against higher energy prices, but also against the shifting preferences of both tenants and investors with respect to environmental issues. Increasing market awareness of climate change and rising energy costs can only increase the salience of this issue for the private profitability of investment in real capital.

These findings also have implications for current considerations of energy conservation policies and of measures to reduce global warming and climate change. It appears that modest programmes by governments and by non-profit organizations to provide information to participants in the property market (i.e. ‘nudges’) have a large pay-off. Additionally, buildings certified by independent entities as more energy efficient or sustainable command economic premiums in the marketplace. These results suggest that more-aggressive policies—in the United States and elsewhere—of certifying, rating, and publicizing buildings along these dimensions (including, perhaps, those buildings that score low on energy-efficiency measures) can have a large pay-off in affecting energy use and maybe the course of global warming.

A study adding new insights to the long-running corporate EP–FP debate focuses on the concept of eco-efficiency. ‘**The Economic Value of Corporate Eco-Efficiency**’, **Jeroen Derwall** (UM), **Nadja Guenster** (UM), **Rob Bauer** (UM), and **Kees Koedijk** (Tilburg University), *European Financial Management* 17 (4) (2009), 679–704, was the winner of the 2006 Moskowitz Prize for best quantitative research and the 2008 European Research Award—Finance and Sustainability—for the best dissertation in the field of SD, awarded by the French Sustainable Investment Forum, January 2008. In 2011, the paper was awarded the 2011 European Financial Management Best Paper Top Download Award. Press coverage included an interview in the French newspaper *Le Monde*: ‘L’apport d’une gestion sociale et environnementale à la création de valeur peut être financièrement évalué’ (22 January 2008).

Using a new database of eco-efficiency ratings, the researchers analysed the relationship between eco-efficiency and FP from 1997 to 2004, and found that eco-efficiency relates positively to operating performance and market value. Moreover, the results suggest that the market’s valuation of EP has been time variant, which may indicate that the market incorporates environmental information with a drift. Although environmental leaders did not initially sell at a premium relative to laggards, the valuation differential increased significantly over time.

The results have implications for company managers, who evidently do *not* have to overcome a trade-off between eco-efficiency and FP, and for investors, who can exploit environmental information for investment decisions.

In ‘**A Tale of Values-Driven and Profit-Seeking Social Investors**’, *Journal of Banking and Finance* 35 (8) (2011), 2137–47, **Jeroen Derwall** (UM), **Kees Koedijk** (Tilburg University), and **Jenke ter Horst** (Tilburg University) use a segmentation of the SRI movement by values-versus-profit orientation to resolve the puzzling evidence that both socially responsible and controversial stocks produce superior returns. The researchers find that the segment of values-driven investors, who are willing to sacrifice financial return to derive non-pecuniary utility, is primarily served by ‘negative’ screens that avoid controversial stocks. Consistent with values affecting stock prices, controversial stocks produce anomalously positive returns. The profit-driven segment is best served by specific ‘positive’ screens involving environmental and social issues that have also produced superior returns.

The finding that each segment is served by a different form of SRI explains why the average SRI mutual fund, which adopts a mixture of screens, neither out- nor underperforms conventional peers. The conclusions highlight the fact that different views about SRI that are observed in the literature are complementary in the short run, which begs the question whether SRI should be the only term used to cover different types of social investment practices. However, economic theory predicts that profit-generating opportunities disappear in the long run, which is supported by our empirical analysis over the period 1992–2008.

A paper by **Stefano Herzel** (University of Rome ‘Tor Vergata’) and **Annalisa Fabretti** (University of Rome ‘Tor Vergata’) (2012), published in *The European Journal of Finance*, introduces CSR into the theoretically well-developed field of Delegated Portfolio Management. The results show how to set a bonus for SI and how to relate such a bonus to the knowledge of the portfolio manager of sustainable and non-sustainable assets. The

researchers determined a relationship between the bonus and quantities that measure the statistical distributions of asset returns, the risk aversion of the managers, and their specific knowledge of the assets. This research can help institutional investors pursuing both socially responsible and purely financial objectives to identify and evaluate the most relevant issues when setting the contracts for their portfolio managers.

The group from the University of Perugia – **Elena Stanghellini, Marco Nicolosi, and Stefano Grassi** (2011) – has provided a theoretically robust tool to rank firms according to their ability to comply with CSR standards. Such ability varies across industries or sectors and from one ESG aspect to the other. For example, firms in the financial industry may encounter less difficulty to comply with environmental standards than those in the oil and gas industry. The researchers have built a latent variable item response model that takes these issues into account and measures the CSR ability of a firm accordingly. They have used it to rank firms and to study the performances of equally weighted, value-weighted, and mean-variance optimal portfolios that select the best ones and exclude the worst ones. The results show that criteria based on environment, community, and product quality are very capable of selecting the firms with the best CSR performance, while governance does not exhibit similar behaviour. Moreover, the stock selection based on the proposed ranking outperforms, in terms of risk-adjusted returns, stock selection based on other less sophisticated criteria.

Last but not least, **Rob Bauer** (UM) and **Daniel Hann** (UM) looked at credit risk and environmental management in their research project ‘**Corporate Environmental Management and Credit Risk**’. Most papers look at returns rather than risk, and for their unusual and useful contribution, the researchers were awarded the American Moskowitz Prize for the best quantitative research in the area of SRI. The research demonstrated for the first time the effect of environmental management on credit risk and the cost of corporate debt. The findings showed how ‘companies which have a good handle on their environmental management pay millions of euros less when financing themselves with debt than companies with questionable environmental practices’.

The study analysed corporate environmental management and its implications for bond investors. It provides support for the view that the credit standing of borrowing firms is influenced by legal, reputational, and regulatory risks associated with environmental incidents. Using information on the environmental profile of 582 US public corporations between 1995 and 2006, it shows that (i) environmental concerns are associated with a higher cost of

debt financing and lower credit ratings, and (ii) proactive environmental practices are associated with a lower cost of debt. The results are robust through numerous controls for company- and bond-specific characteristics, alternative model specifications, and industry membership.

Lessons Learned

Looking at the lessons that can be learned from these research projects, it is clear that there is value in SRI; the value changes over time; and there is evidence of a first-mover advantage. One problem is that value ‘created’ by regulation is shown to be pervasive and uncertain and should not be relied on to drive investment policies, as shown by a number of experiences in energy investments. In general, institutional investors appear to be particularly well able to obtain and realize value in SRI, thanks to their sophistication and size. Finally, extracting the value in SRI requires an active attitude from investors, as further demonstrated in the last section of the research highlights. In summary:

- There is value in SRI.
- The value changes over time, and there is evidence of a first-mover advantage.
- Value ‘created’ by regulation is pervasive and uncertain and should not drive investment policies, as witnessed by many experiences in energy investments.
- Institutional investors appear to be particularly well able to obtain/realize that value because of their sophistication and size.
- The value in SRI requires an active attitude from investors.
- SV, i.e. the value of corporate sustainability performance expressed in monetary terms, varies widely.

Further Awards

- Anders Biel received the Gothenburg Exchange Society Award for 2012. The award is in recognition of his research aimed at a better understanding of how human beliefs, norms, and values affect human decision making and behaviour in the environmental domain.
- The members of the SIRP research team attached to USBE received the 2008 Globe Award (www.gfbn.com) for best CSR research from H.R.H. Crown Princess Victoria.

II SRI Reporting (AC_{reporting})

REPORTING OF ESG INFORMATION, along with financial information, has become an important research topic, both demanded by investors and other stakeholders and used by companies to make themselves attractive by boosting their SRI credentials.

H. Nilsson, G. M. Cunningham, and L. Hassel's research on how environmental information is used by financial analysts when valuing companies is described in their papers 'Exploring Environmental Information in Sell-Side Analysts' Research Reports', *Progress in Industrial Ecology* 5 (3) (2008), 213–35, and 'A Study of the Provision of Environmental Information in Financial Analysts' Research Reports', *Sustainable Development* 16 (3) (2008), 180–94.

Whereas research has hitherto focused on the nature of the information reported by companies, this study extends prior research by examining the inclusion of environmental information by financial analysts in their research reports, looking at chemical as well as oil and gas companies. Unlike previous studies on analysts' perceptions, content analysis examined the actual use of environmental information in valuations, based on a sample of research reports collected from large investment banks in the USA and Europe on these industries—whose operations have a considerable impact on the environment. Both companies and financial analysts were divided into subsets by geographic region: Europe and North America.

The results show that analysts do use environmental information, though only in 35 per cent of the valuations. Most of the information utilized is for environmental expenditures and risk assessment, particularly information about environmental provisions and emissions. Another finding is that analysts use environmental information not only for risk evaluations, but also for the assessment of the future upside potential when valuing chemical companies, to motivate the relative valuations. Those reports that do have such information have more environmental information for North American companies than for European ones, and analysts tend to report more information for companies in their regions. The chemical industry receives more attention, especially for downside information.

One major conclusion of the SV group's work was that the single most important obstacle to the inclusion of sustainability information in financial decision making is poor data quality. This applies even to Nordic companies, which are often assumed to be good reporters as well as commercial and non-commercial databases on sustainability information. This raises the question of the reliability

of the results obtained both in academic research and application in practice. In line with this, evidence suggests that decision making in SRI, again in both academic research and practice, is not based on data on corporate sustainability performance but on information considered proxies for corporate sustainability information. This questions many of the results of the research hitherto conducted in this field.

To explore the issue of data quality further, two additional lines of research, part-funded through the MIS-TRA project, are conducted. Breeda Comyns explores in her PhD thesis whether the market for corporate sustainability information is a market for lemons, i.e. a market at risk of market failure due to information asymmetries and incentives to cheat. Andrea Liesen examines the market efficiency of financial markets regarding information on climate change-related risks. In this context, she has analysed the reporting of CO₂ performance data in about 4,000 corporate sustainability reports. Only markets that are efficiently pricing information on climate change-related risks accurately reflect the financial risks linked to, for example, corporate CO₂ emissions. Inefficient markets can constitute good news for investors as they provide an opportunity for investment styles that provide an outperformance. From the perspective of environmental policy, they are bad news as they reflect a situation in which climate change-related risks are not even accurately taken into account regarding their financial impact. This questions the ability of financial markets to consider and translate environmental policy into efficient resource allocation. The work of the SV group on corporate sustainability reporting was featured in the *Guardian* ('Howlers and Omissions Exposed in World of Corporate Social Responsibility: Study Points to Slapdash Fact- and Figure-Checking in Companies').

Notwithstanding the data quality problems identified in current sustainability reports, it is often argued that qualitative information plays an equally important role in corporate sustainability performance assessment. In their working paper, 'CEO Statements in Corporate Sustainability Reports: Substantive Information or Background Noise?' Ralf Barkemeyer (University of Leeds), Frank Figge (Euromed Management School), and Giulio Napolitano (Queen's University Belfast) ask the question whether the qualitative elements of corporate sustainability reports allow robust conclusions about a company's sustainability performance. The analysis shows that this is not the case. The paper has been selected for the Best Paper Proceed-

ings of this year's Academy of Management Conference, to be held in August in Boston, Massachusetts. They present a sentiment analysis of 632 corporate sustainability reports and corporate financial reports. Previous studies have identified a robust relationship between FP and the rhetoric used in corresponding financial reports. If sustainability reports are fair reflections of sustainability performance, then this should be reflected in the rhetoric used in these reports. The analysis shows that this is not the case.

Another project by researchers Tommy Lundgren (USBE) and Rickard Olsson (USBE) looks at CSR or ESG and financial outcomes at company level: 'CSR or ESG and Financial Outcome on the Firm Level'.

The theoretical part of this project seeks to explore the economic mechanisms behind CSR in a microeconomic model of the firm. The study's aim is to shed light on the potential causes of the observed phenomena of voluntary over-compliance among firms. The researchers investigate how various assumptions about costs and benefits may affect CSR behaviour through a stock of goodwill capital. The analysis shows that in optimum, the profit-maximizing firm must balance marginal costs and benefits of investing in CSR. The researchers characterize the equilibrium and then examine comparative statics and dynamics from a parameterized model and conclude that the empirical evidence on CSR is generally in accord with the model's predictions. Besides the formal model, the value of this research is also that it provides a coherent and condensed categorization of a complex literature.

Two empirical studies in the project focus on environmental incidents and their impact on company value. Event-study methodology is used to analyse whether bad news in the form of EV incidents affects the firm's value negatively. An international sample of firms with EV incidents is studied. It is found that EV incidents are generally associated with loss of value. For European firms, the loss is statistically significant and the magnitude of the abnormal returns should be of economic significance to corporations and investors. The results are not sensitive to multiple variations in methodology, including the use of international versions of the market model as well as of multi-factor models of the Fama-French type. Results are also robust with respect to different parametric and non-parametric test statistics.

Also among the highlights in this research sector is the project 'Impact of Values on SRI Practice: A Comparison of Financial Professionals & Beneficiaries', SV group, Ralf Barkemeyer (University of Leeds), Frank Figge (Euromed Management School), Tobias Hahn (Euromed Manage-

ment School), and Andreas Hoepner (University of St Andrews). This project aimed to identify the core values of financial professionals and the beneficiaries in the context of SRI, and to identify the extent to which financial practice incorporates the values and beliefs of the beneficiaries. Based on a number of empirical enquiries, it was shown that sustainability-related perceptions of SRI practitioners tend to be homogeneous irrespective of the countries they are based in. In contrast to corporate practitioners and the general public in different countries, who tend to show country-specific perceptions and priorities, the sustainability agendas of SRI practitioners remain relatively stable across country borders. This creates agency problems, in particular in the domain of ethical investment: the decision making of SRI practitioners might reflect the values and perceptions of their own epistemic community rather than the interests of the beneficiaries in the countries they operate in.

For the beneficiaries, a tool was developed to identify sustainability agendas in forty-one different countries. The Trends in Sustainability website (www.trendsinsustainability.com) allows visitors to access a database comprising monthly levels of broadsheet newspaper coverage on twenty key sustainability challenges, such as climate change, biodiversity, or human rights, over a time period of twenty years. The data are based on a screening exercise of more than 200 million newspaper articles in 115 international broadsheet newspapers. They show marked differences in sustainability-related priorities in different countries, both in a European context and in particular between developed and emerging economies. The initial launch of the website received coverage in a number of international newspapers as well as the online editions of Business Week and the Guardian. The launch of an extended data set, now covering 185 newspapers from 85 countries, will take place in July 2012. A discussion paper by Ralf Barkemeyer, Frank Figge, Tobias Hahn, and colleagues, with the title 'Trends in Sustainability', provides an overview of the database.

Linked to the project, Ralf Barkemeyer (Queen's University Management School), Frank Figge (Euromed Management School), Tobias Hahn (Euromed Management School), and Diane Holt (Queen's University Management School) published 'What the Papers Say: Trends in Sustainability: A Comparative Analysis of 115 Leading National Newspapers Worldwide', *Journal of Corporate Citizenship* 33 (2009), 69–86. Finally, a working paper by Ralf Barkemeyer (University of Leeds) and Lutz Preuss (Royal Holloway) entitled 'Priorities in Corporate Sustainability Reporting: Does East Meet West, Does South Converge on North' was named runner-up for the Academy of Manage-

ment 2011 Carolyn Dexter Award for Best International Paper, San Antonio, Texas.

Lessons Learned

From the research grouped under the reporting heading, it emerges that SRI reporting has become more mature, more prevalent, and more influential. However, the impact of SRI reporting is still largely limited to ‘shock’ effects, for example after serious incidents, such as oil spills. There is a need for reporting with more granularity, which will allow investors to use the reports as a means to engage. In summary:

- *SRI reporting has become more mature, more prevalent, and more influential.*
- *The impact of SRI reporting is still largely limited to ‘shock’ effects, for example after serious incidents (e.g. oil spills).*
- *There is a need for reporting with more granularity, allowing investors to use reports as a means to engage.*
- *The reporting and use of corporate sustainability performance data are still in their infancy.*

Further Awards

Among other awards, **Joakim Sandberg** was presented with the Holmes Rolston III Early Career Essay Prize for his article ‘My Emissions Make No Difference’. The prize is

awarded by the International Society for Environmental Ethics and the Center for Environmental Philosophy (USA), and aims to encourage and support research in environmental philosophy by scholars in the early stages of their career (within five years of having earned their PhD). The prize is named after Holmes Rolston III, in recognition of his pioneering work in the field of environmental philosophy. According to the citation, Joakim Sandberg’s essay ‘addresses an important and timely topic, the question of individual responsibility with respect to carbon emissions’. The article was published in the Fall 2011 issue of the journal *Environmental Ethics*.

Sandberg also won a Highly Commended Paper Award at the 8th International Conference on Corporate Governance, organized at Birmingham Business School, UK, on 29 June 2010. The theme of the conference was Corporate Governance and Sustainability, and Joakim’s paper was entitled ‘Socially Responsible Investment and Fiduciary Duty: Putting the Freshfields Report into Perspective’. Sir Adrian Cadbury, well known within corporate governance, presented the award. As former chairman of Cadbury Schweppes and a former director of IBM and the Bank of England, Sir Adrian Cadbury has been a pioneer in raising awareness on corporate governance and produced the Cadbury Code, a code of best practice, which has served as a basis for reform of corporate governance around the world.

III SRI Engagement (AC_{engagement})

THIS LAST SECTION FOCUSES on the shift described earlier from investor exclusion/inclusion of bad or good SRI investments, first to a demand for SRI reporting and, most recently, to the drive for *benchmarking* and *engagement* between investors, especially large pension funds and other institutional investors and companies.

Based on the research by **Ian Hamilton** (USBE), an op-ed co-written with Lars Hassel (USBE) appeared in the Swedish daily business newspaper *Dagens industri* on 31 January 2011, ‘**Sverige behöver klara regler för ansvarsfulla investeringar**’ [Sweden Needs Clear Rules for Responsible Investments]. An interview also appeared in the same newspaper later that year.

The research findings indicate that the five AP state pension funds approached the national responsible investment (RI) directive by adopting two different methods. One fund used a norm-based screening approach (a tool for assessing corporate conduct) combined with exclusion. On the other hand, four funds applied the

same screening philosophy, but instead of selling companies violating global norms on environmental protection, human rights, and labour standards, they decided to influence them to improve through active dialogue or engagement. There are several underlying explanations for the differences in approach. For instance, the five pension funds are active in two different public pension systems. In the premium pension system, one AP fund is competing for market share with over 800 mutual funds. This competitive environment has most likely generated a strategic incentive for this AP fund to pursue an RI leadership position. Findings also show an initial reluctance among investment managers and analysts to fully integrate the directive because an exclusion model would threaten to reduce their investment universe. In this respect, engagement appeared less offensive, together with the fact that this has become a mainstream approach among investors.

On the other hand, our findings indicate that engagement is more challenging than exclusion to communi-

cate. This brings us to legitimacy and what appears to be a strong driver for the public pension funds. It is stated in the directive that all national pension funds must act in such a way as to promote public trust. Since RI does not offer a given solution to its practice, legitimacy becomes a strong replacement factor, as AP funds need to show compliance. Therefore, we conclude that RI practices are often combined with credible sources of legitimacy conferred from key constituencies, such as media, consultants, and screening firms, acting in a socially and institutionally convincing context.

In a timely look at alternative SI markets, **Anders Isaksson** (USBE) has been investigating **Sustainable Venture Capital Investments**. The overall purpose of the research project is to develop knowledge of how venture capital (VC) financing mechanisms and investment funds can help to catalyse the growth of companies developing new sustainable ventures and to facilitate significant projects for SD.

In order to increase SIs, it is vital to also look at private equity investments in young entrepreneurial firms that are developing new sustainable technologies. One idea behind this programme is that sustainability is often the fruit of innovation, both in technological and social terms, and innovation is usually in turn driven by the creativity and energy of young entrepreneurs and companies. In the process of shaping young innovative entrepreneurial ideas into successful mature firms, VC is frequently highlighted as a key contributor. The research investigated these issues on several levels: investor behaviour (ESG consideration), investments patterns, and entrepreneurial values and motives.

A model for ESG screening of VC and private equity firms was developed and tested on 500 such firms in the United States, the United Kingdom, and Sweden (Isaksson, 2011b). The researchers found a rather low degree of social responsibility (ESG considerations) in the private equity industry, even though there are some positive trends. Later-stage investors generally consider ESG more than early-stage (VC) firms, and those firms with investment preferences for clean technologies usually also have more-pronounced SRI behaviour. Some country differences were found as well.

In a study of the total pool of private equity investments in Sweden, investments patterns and growth in clean-tech investments in Sweden were investigated (Isaksson, 2011c). Besides general investments patterns (investments in different industries), we could also see that clean-tech firms in general show a higher growth rate than other firms. These are the projects that probably have received the most coverage outside academia (for example

seminars and discussions at the Swedish Ministry of Enterprise, Energy and Communications; various government agencies; and seminars for practitioners).

In a study of the values and norms that drive entrepreneurs in developing clean technologies, we could see that there are some contradictions in values behind entrepreneurial intentions (for example self-enhancement) and values behind environmental concern (for instance self-transcendence) (Isaksson, 2011a). The most recent project is investigating how social factors, including gender, culture, education, and motivation, affect financial decisions, for example VC financing, in newly formed businesses, based on a survey of 11,398 such firms (Isaksson & Quoreshi, 2012).

Researcher **Jonas Nilsson** (USBE) was awarded a three-year post-doctoral Wallander Scholarship in June 2011, a scholarship awarded to outstanding young post-doctoral researchers in the economic disciplines. Nilsson’s project ‘**ESG Factors and Investment Decisions**’ investigates the role of ESG factors in the decision making of investors.

The overall aim of the research is to increase knowledge of how investors combine financial and ESG factors when making the decision to invest according to sustainable principles. This is an important area as focusing on both financial and ESG factors simultaneously sheds light on the fundamental drivers of SI. Different stages in the decision-making process, from pre-purchase to post-purchase, were addressed in the project. Moreover, as the decision-making environment impacts the decisions that investors make, this was analysed in order to examine whether investors receive sufficient information to make appropriate SI decisions. The studies were conducted in the Swedish retail SRI market where many institutional investors and banks offer SRI funds. Questions focused on a number of aspects of investor motivation in order to analyse the trade-off between ESG factors and financial return.

Results from several studies show that ESG factors are important to private investors. For example, pro-social attitudes are reflected both in increased search behaviour for ESG information and in investment behaviour in SRI funds. However, the studies also emphasize the importance of financial return. In order to provide a more nuanced picture, a segmentation analysis was conducted that showed that socially responsible investors differ in their financial and ESG motivations. Thus, different investors want different things out of their SRI funds.

The studies highlight investor efficacy as one of the most important issues for investors. Investors who feel that their investment can actually influence social and environmental problems are more likely to invest in SRI. The project also finds that the structure of the information

in the marketplace impedes the diffusion of SI products. In a paper, co-written with **Sebastian Siegl** (Åbo Akademi University), a solution to this situation through a new disclosure framework is presented.

The project can benefit practitioners in several ways. For example, it has generated considerable information about the ESG and financial preferences of investors. This is useful both to retail funds and to institutional asset managers/investors who want to understand their customers or beneficiaries. It could also be used to increase satisfaction among beneficiaries or customers. In line with the results that indicate efficacy is important, retail funds and institutional investors should highlight the consequences of their ESG strategies in order to garner increased support from beneficiaries for applying ESG criteria in the investment process. Finally, a better understanding of the challenges consumers face helps SRI providers to develop superior tools to guide consumers in their decision making.

A paper, not strictly speaking about engagement, but closely related to this, is ‘**Residential Energy Use and Conservation: Economics and Demographics**’ by **Dirk Brounen** (Tilburg University), **Nils Kok** (UM), and John Quigley (UC Berkeley). Energy consumption in the residential sector offers an important opportunity for conserving resources. However, much of the current debate regarding energy efficiency in the housing market focuses on the physical and technical determinants of energy consumption, neglecting the role of the economic behaviour of resident households. The paper analyses the extent to which the use of gas and electricity is determined by the technical specifications of the dwelling as compared to the demographic characteristics of the residents. The analysis is based on a sample of over 300,000 Dutch homes and their occupants. The results indicate that residential gas consumption is determined principally by structural dwelling characteristics, such as the era, building type, and characteristics, while electricity consumption varies more directly with household composition, in particular income and family composition. Combining these results with projections on future economic and demographic trends, we find that even without price increases for residential energy, the aging of the population and their increasing wealth

will roughly offset improvements in the energy efficiency of the building stock resulting from policy interventions and natural revitalization.

Finally, and particularly apposite to the engagement question, is a study by **Rob Bauer** (UM), **Frank Moers** (UM), and **Michael Viehs** (UM), entitled ‘**The Determinants of Withdrawn Shareholder Proposals**’. The researchers studied over 12,000 shareholder proposals that had been filed to companies between 1997 and 2009 and investigated the determinants of a proposal withdrawal. They find that institutional ownership is positively and insider ownership negatively related to the likelihood of a proposal withdrawal. Furthermore, proposals sponsored by institutions are also more likely to be withdrawn relative to proposals filed by private investors. The empirical evidence points to the importance of withdrawn shareholder proposals as a *governance* mechanism. Managers try to protect their own power and reputation by preventing filed shareholder proposals from being put to a vote during the annual general meeting: to this end, they enter into private negotiations with the sponsors of the proposals in order to accomplish a withdrawal.

Lessons Learned

The research grouped under the engagement heading shows that engagement is the key to effective SRI investing. But it also demonstrates that there is still a great deal to be learned regarding engagement, which requires—and results from—a different type of SRI investing, which can be characterized as active, as well as a different type of SRI reporting, namely comparative reporting. The conclusion is that engagement needs benchmarking; also, ‘public’ tools can be used for ‘private’ negotiations. In summary:

- Engagement is the key to effective SRI investing.
- There is still a lot to learn regarding engagement.
- Engagement requires (and results from) a different type of SRI investing (= active) and a different type of SRI reporting (= comparative).
- Engagement needs benchmarking: ‘public’ tools can be used for ‘private’ negotiations.

The Future

NOW THAT WE HAVE described the highlights of how the SI flow has been studied as part of the MISTRA programme, we take this opportunity to identify any missing pieces of the puzzle, as well as any extensions to the framework laid out in Figure 1.

The bulk of the research highlighted above falls into the SRI investing category due to the investors’ need for reliable information on sustainability. However, we have seen how the entire SRI picture has gradually shifted, from the initial idea that responsibility means exclusion of, for instance, ‘sin stocks’ to the effort to pick green winners and research to identify best in class and best performers—and also to determine value in being sustainable. This also led to the demand from investors for more social and ecological reporting by companies and, conversely, the use of such reporting by companies themselves to attract investors by proclaiming their SRI credentials.

The further development we are seeing now is towards **benchmarking**, allowing investors to see how well companies are doing on greenness and sustainability and where they can improve, and to use this information as an **engagement** strategy. For the sustainable investor, this can be a way to generate value by picking a company that is not necessarily best of class but where the investor, by putting pressure on it and using his/her knowledge, can force the company to become better than mediocre.

Some missing pieces of the puzzle concern feedback mechanisms, notably between risk and return and investors and other stakeholders—in Figure 1 (EA, DA, EB, and DB). In general, more research is needed on risk; the paper by Bauer and Hann entitled ‘Corporate Environmental Management and Credit Risk’ points the way ahead here. Finally, more research is clearly required on benchmarking and engagement strategies, in line with the whole investing development trend.

Fortunately, it is possible to say the future is already here to some extent, in the form of GRESB as the benchmarking engagement tool for investment in green real estate. We have seen that institutional investors increasingly use the engagement tool to assess and improve the ESG performance of companies they invest in. Since institutional investors are among the largest players on the capital market and the main providers of equity capital to the corporate sector in general, and to the (commercial) real estate industry in particular, the demands of these investors can have a substantial impact on ESG performance.

The real estate sector is of particular interest from an environmental perspective, as it is well documented that

the sector is responsible for 40 per cent of global greenhouse gas emissions, for 55 per cent of the global consumption of wood, and for about 75 per cent of electricity consumption in the United States alone. More-efficient use of energy and other resources by the real estate sector can structurally reduce these numbers, and thus lower the demand for increasingly scarce (and costly) natural resources.

Importantly, improved sustainability performance in the real estate sector may very well go hand in hand with enhanced FP, through lower operational costs as well as reduced portfolio risk. Indeed, a 2007 McKinsey report has suggested that many investments aimed at reducing carbon emissions from buildings could be made at a profit. Academics and practitioners have further investigated this issue, and the general evidence indeed shows positive financial effects associated with better EP. For example, commercial buildings with energy-efficiency ratings command significantly higher rents, better occupancy rates, and higher prices than otherwise comparable conventional buildings. On the other hand, lower levels of energy efficiency and sustainability have been associated with an increased risk of obsolescence.

Given these findings, one would expect that rational real estate investors take the necessary initiatives to improve the energy efficiency and sustainability of their portfolios. But of course, for markets to function properly, information transparency on ESG metrics is a key ingredient.

A highly relevant area for meaningful benchmarking and the efficient functioning of markets for more sustainability is the availability and widespread use of reliable and comparable sustainable performance information. Research by the SV group reveals that the quality and comparability of such information on the market today are still cumbersome, and limits are more fundamental and far-reaching when integrating sustainability concerns of market actors. This situation holds even for performance areas, such as global warming, that have gained widespread recognition and momentum. Future research needs to focus on providing practitioners with tools that allow for a sustainability analysis of corporate performance at a higher level of professionalism. The work on the SV approach in MISTRA offers valuable starting points in this context.

This all suggests that future research efforts should be concentrated on benchmarking and engagement, and in this area, it is encouraging that what has already been achieved for real estate points towards what could also be

achieved in other areas, such as microfinance. In this connection, this report concludes with a word about ESG in real estate and GRESB.

ESG in Real Estate: The Role of Institutional Investors

The fiduciary responsibility of institutional investors used to be invoked as an argument against integrating information on ESG performance into investment decisions. However, screening the real estate allocation on ESG performance does not need to conflict with the fiduciary duty of investors. In fact, the current stream of scientific evidence suggests that it would be a breach of fiduciary duty *not* to assess real estate investments on their environmental and governance performance: it may reduce downside risk and also help to identify better and innovative investment opportunities. There is still scant evidence on the relationship between social attributes of property companies and their FP.

Institutional investors build up most of their real estate exposure through stakes in real estate funds and companies. To integrate ESG metrics into their real estate investment strategies, it is thus imperative for institutional investors to have qualitative and quantitative information on the sustainability performance of these entities. The information should include property companies and funds that are taking the first steps in implementing ESG factors ('starters'), but also those companies and funds that are demonstrating ESG leadership ('stars'). However, existing information on the ESG performance of real estate asset managers is limited, and often only focused on sector leaders among public real estate companies. Also, with a substantial part of the institutional capital allocated to privately managed funds, information on the non-listed side of the market is crucial. Institutional investors prefer a single approach to measuring the EP of their real estate portfolio, including both private and listed investments.

The GRESB Foundation: Creating Transparency to Enhance Market Efficiency

The GRESB Foundation, an initiative of some of the world's largest institutional investors, leading academics, and industry bodies, provides a science-based sustainabil-

ity *benchmark* for commercial property portfolios; a tool for institutional investors to start a dialogue on social and environmental issues with their real estate managers. The initiative is a tangible example of collaborative *engagement* with the commercial property sector: investors using their stakes in private and listed real estate funds as leverage to improve the EP and SP of the sector.

By uncovering the environmental and social best practices in the industry, GRESB shows the way forward for the real estate sector. Benchmarking current ESG performance can help generate and strengthen the market forces needed for the necessary reduction in resource consumption. This allows real estate investment managers to immediately take into account the risks of higher energy prices, stricter legislation targeted directly at the real estate sector, and the changing preferences of corporate and other tenants.

The GRESB Foundation aims to provide comprehensive metrics and other relevant information that are material to investors and relate directly to the bottom line. The benchmark is designed in such a way that high GRESB scores are positively related to reductions in operational expenditures. This implies that GRESB members using the information to engage with their investment managers may not only contribute to the mitigation of climate change or other environmental threats, but may also benefit financially through the reduced risk or the improved FP of their real estate investments.

CONCLUSIONS: LOOKING AHEAD

The new research tools, insights, and conclusions that emerge from the MISTRA programme make it clear that the trends already emerging about the shape of the future call for the development and application of an initiative, such as GRESB, to other areas, for example microfinance and private equity to name but two, in order to furnish investors with applicable SRI principles and tools in these areas as well. This will also help investors to identify the best vehicles for SRI.

Secondly, more engagement tools are needed in the shape of additional benchmarks and further research into effective benchmarks. This is a key requirement for effective engagement whereby investors can actually influence the vehicles they choose in order to achieve SRI.

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RESEARCHERS

Rob Bauer

AFFILIATIONS
Maastricht University

RESEARCH DESCRIPTION
Dr Rob Bauer's academic research is focused on pension funds, strategic investment policy, mutual fund performance, responsible investing, shareholder activism and corporate governance. His focus lies on the responsible investment strategies of institutional investors and on the asset pricing consequences of ESG information for equities and bonds, the social and risk preferences of individual investors, the determinants and effectiveness of shareholder engagement and the corporate governance of firms.

SHORT BIOGRAPHY
Rob Bauer is Professor of Finance at Maastricht University School of Business and Economics in The Netherlands. Rob publishes regularly in professional and academic journals and is a frequent speaker on national and international conferences. Rob is director of the European Centre for Corporate Engagement (ECCE) at Maastricht University and Associate Director at the International Centre for Pension Management (ICPM) at the Rotman School of Management, University of Toronto in Canada. Rob was previously at ABP Investments as a Fund Manager and Head of Research for 12 years.



Ralf Barkemeyer

AFFILIATIONS
University of Leeds.

RESEARCH DESCRIPTION
Ralf's research has primarily focused on the application and further development of the Sustainable Value approach in the context of carbon management and the Nordic countries, as well as the impact of values and perceptions of various actors on SRI practice. In addition, he was engaged in a number of activities analysing the quality of quantitative sustainability performance information that is currently available in the market.

SHORT BIOGRAPHY
Ralf Barkemeyer is Lecturer in Corporate Social Responsibility at the University of Leeds, UK. He holds Masters degrees in Business Administration and Environmental Sciences. Prior to joining the University of Leeds, Ralf has been working at the University of St Andrews and Queen's University Management School, Belfast, from where he received his PhD on CSR practices and priorities in developed and developing countries.

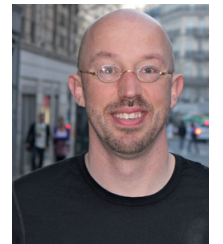


Jaap W.B. Bos

AFFILIATIONS
Maastricht University School of Business and Economics

RESEARCH DESCRIPTION
Jaap Bos (PhD 2002, Maastricht) is an economist specializing in banking and growth empirics. He is currently Associate Professor of Finance at Maastricht University. His work has been published in the Journal of Business, the European Economic Review, the Journal of Development Economics and the Journal of Banking and Finance. His research interests include the role of productivity differences, spillovers and innovation in explaining economic growth, and the analysis of micro-developments in efficiency and competition.

SHORT BIOGRAPHY
Jaap Bos is a former member of the Basel II Research Task Force and co-author of the BIS background paper entitled 'Studies on the Validation of Internal Rating Systems'. He has edited and published several prestigious publications related to Banking and Finance, among them a 2005 special issue on 'Banking and Finance in an Integrated Europe', and "Bank Performance" (Routledge, 2008), a theoretical and empirical framework for the analysis of profitability, competition and efficiency.



Andrea Chegut

AFFILIATION
ECCE, Maastricht University

RESEARCH DESCRIPTION
Andrea researches sustainable innovations in the built environment. A recent publication is on UK BREEAM certified buildings' financial performance and market impact. Current projects involve measuring neighborhood externalities of green buildings; market competition for green real estate; and policy work on energy-efficient retrofits in social housing for the EU 7th Framework Project BEEM-Up.

SHORT BIOGRAPHY
Andrea Chegut is a Principle Researcher for the European Property Research Institute and European Center for Corporate Engagement at Maastricht University. From 2004 to 2008, she was the Lead Analyst for the Financing Division at Sherman Capital Markets and in 2009, she earned her Masters in Science in Economics and Law from Utrecht University.



Breeda Comyns

AFFILIATIONS
Euromed Management School, Marseille

RESEARCH DESCRIPTION
Breeda's research is on the quality and quantity of sustainability reporting focusing in particular on reporting of greenhouse gas (GHG) emissions. One study considers GHG reporting by the largest global oil and gas companies including those headquartered in Nordic countries. The objectives are to investigate how and in which dimensions of quality sustainability reporting has evolved as well as to assess the strengths and shortcomings of reporting practices.

SHORT BIOGRAPHY
Breeda is a PhD candidate at Queens University Management School, Belfast. Her research focuses primarily on corporate sustainability reporting. Prior to commencing her doctoral studies, Breeda worked as an Environment, Health & Safety professional within the pharmaceutical and medical device industries. Breeda currently works as a Researcher at Euromed Management School, Marseille where she is involved in a joint research project entitled 'value based environmental sustainability analysis of Nordic companies'.



Jeroen Derwall

AFFILIATION

ECCE, Maastricht University

RESEARCH DESCRIPTION

Jeroen's research focuses on the role of ESG factors in equity and fixed-income markets. The research helps (institutional) investors understand how certain ESG factors influence the performance of investment portfolios, and the potential tradeoff between ESG objectives and financial goals. Taken together, the results empirically link ESG factors to equity and bond returns, the cost of capital, corporate valuation measures, credit ratings, and analyst forecasts.

SHORT BIOGRAPHY

Jeroen Derwall is part-time Assistant Professor of Finance at Maastricht University and co-founder of the European Centre for Corporate Engagement, and part-time assistant professor at Tilburg University (working for the Tilburg Sustainability Center). In addition, he coordinates and teaches postgraduate education on active equity portfolio management for the Dutch Financial Analysts Association (VBA). Previously, he was assistant professor of Financial Management at RSM Erasmus University, where he obtained his PhD in Financial Management.



Piet Eichholtz

AFFILIATIONS

Maastricht University

RESEARCH DESCRIPTION

Professor Eichholtz' research is about real estate, with a special focus on the economic and financial effects of sustainable investment practices. He also does a lot of research on corporate governance in real estate investment, for example in European Real Estate Investment Trusts.



SHORT BIOGRAPHY

Piet Eichholtz (1962) is Professor of Real Estate and Finance and chair of the Finance Department at Maastricht University in the Netherlands. His research has been published in several peer-reviewed academic journals. He is also a fellow of the U.S. Real Estate Research Institute and of the World Demographic Association, a member of the Real Estate Council of the World Economic Forum. Eichholtz is also a strong entrepreneur. Among many successful endeavors he is a founder, of GRESB, the Global Real Estate Sustainability Benchmark.

Annalisa Fabretti

AFFILIATIONS

University of Rome Tor Vergata, Italy

RESEARCH DESCRIPTION

Annalisa Fabretti's research is related to the incentives of asset managers, which represents a key issue when trying to mainstream CSR, since it concerns the motivations of the main actors on the stage. In her recent paper, with colleague Stefano Herzel, Annalisa developed a simple model where she studied how incentives influence an asset manager's strategy and how to design a contract between an institutional investor and an asset manager to foster investment in CSR assets. The research introduces CSR into the theoretically well developed field of Delegated Portfolio Management.

SHORT BIOGRAPHY

Annalisa Fabretti is Assistant Professor at the University of Rome Tor Vergata. She graduated from the faculty of mathematics at "La Sapienza" University of Rome in 2001 and earned her doctoral degree in Mathematics for Financial and Economics Application from "La Sapienza" University of Rome in 2006. Her research interests include mathematical finance with attention to Socially Responsible Investment and contractual relations between investors and fund managers.



Frank Figge

AFFILIATION:

Euromed Management School, Marseille

RESEARCH DESCRIPTION

Frank's research focuses on the application and further development of the Sustainable Value approach and on the quality and the use of corporate sustainability information. The overall focus is on the management and measurement of environmental and social capital using proven tools and techniques that are used in the financial markets for the management of economic capital.

SHORT BIOGRAPHY

Frank Figge is Professor of Sustainable Development and Corporate Social Responsibility at Euromed Manage-

ment School Marseille, France. He holds a Masters degree and a PhD in Economics. Prior to joining Euromed Management Frank was Professor of Management and Sustainability at Queen's University Belfast (Northern Ireland) and Professor of Corporate Social Responsibility at the University of St Andrews (Scotland). His main research interests are the management and measurement of corporate sustainability performance, value-based management, sustainable finance and the economics and management of diversity.



Tommy Gärling

AFFILIATIONS

University of Gothenburg

RESEARCH DESCRIPTION

Tommy Gärling's research spans topics in environmental psychology, economic psychology, judgment and decision making, and travel behavior. He has published in leading journals in all these four fields. In the SIRP program he has led several projects studying for example herding behavior in stock markets, negative effects of short-term bonuses to stock portfolio managers, and public attitudes towards an extended fiduciary duty taking social and ecological factors into account.

SHORT BIOGRAPHY

Tommy Gärling (b. 1941) graduated in 1972 from Stockholm University with a Ph.D. in psychology. He was 1973-1987 employed by Umeå University, and from 1987 to 1991 Research Professor at the Swedish Council for Research in the Humanities and Social Sciences (HSFR). Since 2008 he is Professor Emeritus of Psychology at University of Gothenburg. He has been visiting professor at several universities, such as University of California, Aarhus School of Business 1996, and Umeå University.



Tobias Hahn

AFFILIATION

Euromed Management School, Marseille

RESEARCH DESCRIPTION

Tobias' research focuses on sustainability performance and sustainability strategy. Together with colleagues from France, the UK and Germany he has developed Sustainable Value as the first value-oriented approach to corporate sustainability measurement. He also looks into how companies deal with trade-offs between different sustainability issues as well as into stakeholder influence strategies.

SHORT BIOGRAPHY

Tobias Hahn is Associate Professor of Corporate Sustainability, CSR and Environmental Management at Eu-

romed Management School Marseille, France. He holds a Masters degree in Environmental Science and a PhD in Economic and Social Sciences. Prior to joining Euromed Management he spent five years in at a research institute in Berlin, Germany where he led and developed sustainability related research and transfer projects. His main research interests are corporate sustainability, corporate carbon performance, value-based sustainability management and assessment, sustainable value strategies as well as stakeholder behaviour and strategies.



Ian Hamilton

AFFILIATION

Umeå School of Business and Economics

RESEARCH DESCRIPTION

Ian Hamilton's research centres on sustainable investment and how five Swedish National Pension Funds adopted to new practices. His case studies focuses on the pension funds' interpretation and implementation of the unique government directive calling for enhanced environmental and ethical consideration in the investment decision making. Results show, among toher things, that pension funds seek carriers of conferred legitimacy among consultants, rating agencies and media in their ambition to appear credible in front of their key constituencies.

SHORT BIOGRAPHY

Ian Hamilton is a PhD Candidate at Umeå School of Business and Economics in Sweden. Ian is also a project leader for the research program, 'Sustainable Governance among Swedish Pension Funds'. His research centers on how Swedish National Pension Funds (AP funds) apply the government directive on environmental and ethical considerations in investment decision



Lars G Hassel

AFFILIATIONS

Umeå School of Business and Economics in Sweden
Åbo Akademi University in Finland

RESEARCH DESCRIPTION

Professor Hassel's research has focused on drivers of ESG performance on firm level and the economic value of ESG factors beyond financial fundamentals. In his recent paper he has focused on the role of the board and especially what the implications of the personal



character of board members are on environmental reporting and environmental performance.

SHORT BIOGRAPHY

Lars G Hassel is a Professor of Accounting at Umeå School of Business and Economics in Sweden. He holds a Dr. Sc. degree in accounting from Åbo Akademi University in Finland where he also is a professor. Lars Hassel is since 2006 the Program Director of Sustainable Investments Research Platform. Lars was also recently appointed to the position as Dean of the Umeå School of Business and Economics.

Stefano Herzel

AFFILIATION

University of Rome, Tor Vergata,
University of Gothenburg

RESEARCH DESCRIPTION

Stefano's research within the SIRP program focuses on two main topics; the incentives of asset managers and how the incentives influence an asset manager's strategy, and; financial performances of portfolio selection based on CSR criteria, where investors can constrain their investment portfolios by applying CSR criteria without significant losses (in terms of adjusted expected returns).

SHORT BIOGRAPHY

Stefano Herzel was born in Rome. He graduated from the Faculty of Mathematics at La Sapienza Università di Roma, in 1989 and earned his doctoral degree from Cornell University in 1997. He went on to become a faculty member at the University of Perugia and at Università degli Studi di Roma Tor Vergata. His research areas include Quantitative Finance and Sustainable Investment. Since 2010 he is a Visiting Professor in Mathematical Finance at the School of Business, Economics and Law of the University of Gothenburg.



Andreas Hoepner

AFFILIATIONS

The University of St Andrews

RESEARCH DESCRIPTION

Andreas' research focuses on business, environmental science, finance and statistics and corporate social responsibility. Andreas' research also focuses on the increasing interest in environmental, social or governance (ESG) criteria among pension funds. To study the effect of ESG integration on investment performance from the perspective of pensionfunds, Andreas and his colleagues developed a test of the prudent integration of ESG criteria in realistic pension fund investment processes. Their analysis showed zero indications that the integration of corporate environmental responsibility ratings into pen-

sion fund investment processes has detrimental financial effects.

SHORT BIOGRAPHY

Andreas Hoepner is a Lecturer in Banking and Finance at the University of St. Andrews. His main research interest lies in the area of responsible investment. In 2010, he was awarded the PRI Academic Research Award for papers of excellence on responsible investment at the PRI Academic Conference. Andreas has taught on topics around responsible investment at various European universities.



Magnus Jansson

AFFILIATIONS

University of Gothenburg

RESEARCH DESCRIPTION

Magnus Jansson's research has been focused on understanding the psychological factors that impedes or promotes investors to integrate social, environmental and ethical concern in their investment decisions. In his research he has shown that investors are influenced by different and sometimes competing motives and that the importance of different motives such as moral values and financial concern has different importance dependent on if investors are private or institutional investors.

SHORT BIOGRAPHY

Magnus Jansson has a phd in psychology and currently holds a position as a researcher at the University of Gothenburg.



Nils Kok

AFFILIATIONS

Maastricht University

RESEARCH DESCRIPTION

Nils current research focus is on energy efficiency and "sustainability" in the real estate sector, concentrating on the microeconomics of energy efficiency in buildings – residential as well as commercial. Nils broader research interest ranges from urban economics to real estate investments, including topics such as land prices and regulation, transparency of global property markets, international property investments, and demographics.

SHORT BIOGRAPHY

Nils currently holds a position as assistant professor in Finance and Real Estate at Maastricht University, the Netherlands. He spends quite some time at Berkeley, as Affiliated Faculty at the Berkeley Program on Housing and Urban Policy. Nils recently received a prestigious three-year grant from the Dutch Organization for Scientific Research (NWO) for his work on energy efficiency and sustainability in the real estate sector. He also received awards from the United Nations Principles for Responsible Investment, among others.



Andrea Liesen

AFFILIATION
University of Leeds

RESEARCH DESCRIPTION
The research focussed on financial market efficiency towards different proxies for climate change induced systematic risk in Europe. Special emphasis was put on the quality of disclosed corporate GHG-emissions data. Results show that financial markets are currently not pricing the systematic risk induced by climate change efficiently, with far reaching consequences for companies and investors.

SHORT BIOGRAPHY
Andrea is a PhD student at the University of Leeds, School of Earth and Environment. In her research she has exam-

ined corporate disclosures of quantitative GHG-emissions and whether financial markets efficiently price the risk induced by these reported emissions. Prior to starting my PhD I worked as a Researcher at Institute for Futures Studies and Technology Assessment in Berlin. My academic background is in Business Management. In my free time I like to meet friends and spend time on social fashion blogs.



Tommy Lundgren

AFFILIATION
Umeå School of Business and Economics

RESEARCH DESCRIPTION
Lundgren's research has recently been on the measurement and assessment of economic and environmental performance. This research has had three overall goals: (1) to develop environmentally sensitive productivity indexes at firm level in Swedish manufacturing; (2) to use these indexes to study sustainability in terms



of actual emissions and energy use and the impact of energy and environmental policy, such as the Swedish CO2 tax introduced in 1991; (3) to study the whole chain, i.e., how policy influence firms' environmental performance and, sequentially, how this affects profitability.

SHORT BIOGRAPHY
Dr. Tommy Lundgren's main affiliation is at the Centre for Environmental & Resource Economics at Umeå University, and his research focuses on environmental and natural resource economics. He has published in several journals, won several international awards, and is currently the principal investigator of several research projects.

Giulio Napolitano

AFFILIATIONS
Queens University of Belfast

RESEARCH DESCRIPTION
Giulio researches the sentiment analysis of CEO statements of corporate sustainability reports and corporate financial reports, using a range of linguistic sentiment metrics (risk, optimism, deception). He adapted existing psycho-social dictionaries and performed normalisation of the raw data. Currently, Giulio is working on a web service that could be used by the research community for analogous tasks.



SHORT BIOGRAPHY
Giulio is a researcher and senior IM&T Officer with the Queen's University of Belfast and worked for the SMS in Rome. He has degrees in Philosophy, in Physics with Astrophysics and in Bioinformatics. His PhD project in Applied Mathematics focuses on biomedical ontology-aided extraction of information from pathology reports. With a 3 year old son, he finds increasingly hard to practice with his cello.

Marco Nicolosi

AFFILIATIONS
University of Perugia

RESEARCH DESCRIPTION
Marcos research revolves around measurement of the impact of CSR screening on the efficient frontier. Results show that the diversification opportunities are not significantly reduced by screening. In a second study, a methodology to rank stocks according to their CSR has been proposed. The analysis of the high and low ranked port-



folio returns supports the evidence of a positive relation between CSR and financial performance.

SHORT BIOGRAPHY
Marco Nicolosi is Assistant Professor at the Department of Economics Finance and Statistics of the University of Perugia. He earned his doctoral degree in Theoretical Physics from the University of Rome "Tor Vergata" in 2005. He worked for 2 years as a quantitative analyst in Unicredit. His research interests include SRI and financial modeling for hedging and pricing of derivatives.

Henrik Nilsson

AFFILIATION
Stockholm School of Economics

RESEARCH DESCRIPTION
Henrik's research has been focused on corporate governance and the Extra Financial Value of ESG factors. Auditing, corporate social responsibility, corporate governance, financial accounting and insider trading are other focus areas in his research. Henrik's studies examine how personal characteristics such as ethics, risk taking and ability affect executive decision making in areas such as CSR strategy, investment strategy, financial reporting, and insider trading.

SHORT BIOGRAPHY
Henrik Nilsson joined Stockholm School of Economics in 2010 and is currently acting professor of financial accounting. He got his PhD in Accounting from Umeå University in 2003 and has also been working at Stockholm University. Henrik teaches accounting and financial statement analysis at undergraduate and graduate levels. He has published in top-tier journals such as Journal of Accounting and Economics, Review of Accounting Studies and Contemporary Accounting Review.



Jonas Nilsson

AFFILIATIONS
Umeå School of Business and Economics

RESEARCH DESCRIPTION
Jonas Nilsson's research focuses on socially responsible investment in the retail sector. He has published a number of papers in journals such as Journal of Business Ethics, International Journal of Bank Marketing, and Journal of Financial Services Marketing, on how consumers value financial return and ESG factors when they make investment decisions.



SHORT BIOGRAPHY
Jonas Nilsson is a researcher at Umeå School of Business and Economics at Umeå University. His research interests include consumer behaviour, consumer investment behaviour and socially responsible investment. He was awarded his PhD in 2010 for a thesis investigating the decision making of retail socially responsible mutual fund investors.

Rickard Olsson

AFFILIATION

Umeå School of Business and Economics

RESEARCH DESCRIPTION

Olsson's recent research applies portfolio optimization to construct equity portfolios that satisfy both demanding sustainability criteria and typical risk and tracking error constraints of institutional investors. The results are encouraging for sustainable investing: sustainable equal and value-weight portfolios never generate significant negative Carhart alphas, but are generally outperformed by sustainable factor-neutral portfolios which enjoy significant positive Carhart alphas in all areas and for most levels of sustainability.

SHORT BIOGRAPHY

Dr. Rickard Olsson is an assistant professor in finance and accounting at Umeå School of Business and Economics, Umeå University, Sweden. His research interests include socially responsible investments, portfolio optimization, transaction costs and equity valuation. He also acts as an advisor to fund management companies.



Joakim Sandberg

AFFILIATIONS

University of Gothenburg

RESEARCH DESCRIPTION

Joakim's research in SIRP has focused on an assessment of the extent to which institutional investors' fiduciary responsibilities are consistent with sustainable investing. In a first stage of legal assessment, he considered the limits of the well-known Freshfields report and other legal documents. In a second stage of philosophical assessment, he explored the theoretical limits of the very concept of fiduciary duty.

SHORT BIOGRAPHY

Joakim Sandberg is Research Fellow in Practical Philosophy at the University of Gothenburg, Honorary Research Fellow in Global Ethics at the University of Birmingham and Associate Researcher at Brussels Free University. Joakim's main academic interests are moral philosophy and applied ethics, especially business ethics.



Natalia Semenova

AFFILIATIONS

Åbo Akademi University

RESEARCH DESCRIPTION

Dr. Natalia Semenova has examined if corporate environmental and social performance have extra-financial value for investors to explain stock prices by applying a conventional accounting valuation framework. Her research further investigated the complexity of the universal relationships by looking at two dimensions of environmental performance and by introducing the environmental industry risk factor.

SHORT BIOGRAPHY

Natalia Semenova is a post-doctoral researcher in accounting at Åbo Akademi University, School of Business and Economics in Finland. She received her PhD in accounting from Åbo Akademi University in June 2011 and her Csc degree in economics from USATU – Institute of Economics and Management (Russia) in 2005. Her research interests focus on the extra-financial value of ESG information in financial markets. She is interested in ESG ratings and integrated reporting. Natalia is a frequent speaker and a discussant at academic conferences and workshops related to ESG and SRI.



Sebastian Siegl

AFFILIATION

Åbo Akademi University

RESEARCH DESCRIPTION

Sebastian's research has been focused on the liabilities of institutional asset owners and managers such as mutual and pension funds. Special emphasis is given the legal aspects of ESG integration and the implications of fiduciary duties in this context. The appropriateness of the current legal framework is assessed from an investor (often consumer) point of view.

SHORT BIOGRAPHY

Sebastian Siegl is a researcher at Åbo Akademi, School of Business and Economics. His research interest includes

ESG investments with a particular emphasis on the regulatory aspects of the investments such as fiduciary obligations. He defended his thesis Liability for mutual fund managers – especially about ethical mutual fund management in 2011.



Paul Smeets

RESEARCH DESCRIPTION

One of Paul's papers is now available at the website of the European Centre for Corporate Engagement (ECCE). The paper is entitled "Social Preferences and Investor Loyalty" and is co-authored by Professor Bauer. The article shows that investors with a preference for SRI mutual funds are more loyal to their socially responsible bank and generate substantially more revenue for the bank. The loyalty by these investors is driven by the fact that the values of the investors match those at the banks. At the same time, investors who expect higher returns on SRI funds are not more loyal than are other investors.

SHORT BIOGRAPHY

Paul Smeets is Assistant Professor of Finance at Maastricht University in the Netherlands and is affiliated to the European Centre for Corporate Engagement (ECCE). He obtained his PhD in 2012 at Maastricht University. Dr. Smeets studied at the University of California Santa Barbara (UCSB) in 2005 and will visit the finance department of UC San Diego in Fall 2012.



Michael Viehs

AFFILIATIONS

Maastricht University School of Business and Economics. The European Centre for Corporate Engagement (ECCE).

RESEARCH DESCRIPTION

Michael's research interests are in the fields of corporate governance and corporate finance, with a special focus on shareholder engagement. His existing working papers concentrate on shareholder engagement through shareholder resolutions in the United States. More specifically, Michael and his co-authors investigate the occurrence of shareholder resolutions, the corresponding voting results of such resolutions and the determinants of withdrawn resolutions.

SHORT BIOGRAPHY

Michael Viehs is doctoral candidate in Finance at Maastricht University School of Business and Economics. In addition, he is a researcher at the European Centre for Corporate Engagement (ECCE). Michael holds a Master's degree in International Business, specialization Finance from Maastricht University. Next to his research activities, Michael is also involved in teaching Master's courses on corporate governance and institutional investors at Maastricht University School of Business and Economics.



Sustainable Investment Research Platform is a unique international and interdisciplinary research programme and involves 50 researchers in seven European countries.

The objective of SIRP is to find out how sustainable investment practices can create added value for institutional investors and identify barriers to mainstreaming such practices.

The research includes: *Sustainable Investments and Markets, Sustainable Companies and Ratings, Incentives Systems and Fiduciary Duty.*

During 2011 SIRP published 60 academic articles and working papers and SIRP's researchers presented frequently at prestigious international conferences.

SIRP is funded by Mistra, the Swedish Foundation for Strategic Environmental Research (www.mistra.org), and has a budget of 11 million euro for the period 2006–2012. Umeå School of Business and Economics is hosting the programme.

For more information, please visit www.sirp.se.

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The map depicts the participating Universities and Institutes in SIRP Mistra

Åbo Akademi University
Chalmers University of Technology, Gothenburg
EuroMed Management Ecole de Management, Marseille
Maastricht University
Tilburg University
Institute for Futures Studies and
Technology Assessment, Berlin
University of St Andrews
University of Leeds
University of Gothenburg
University of Perugia
University of Rome
Umeå School of Business and Economics

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