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Responsible Investing 2.1

A Top-Down Multi Asset Perspective



Responsible Investments
Global

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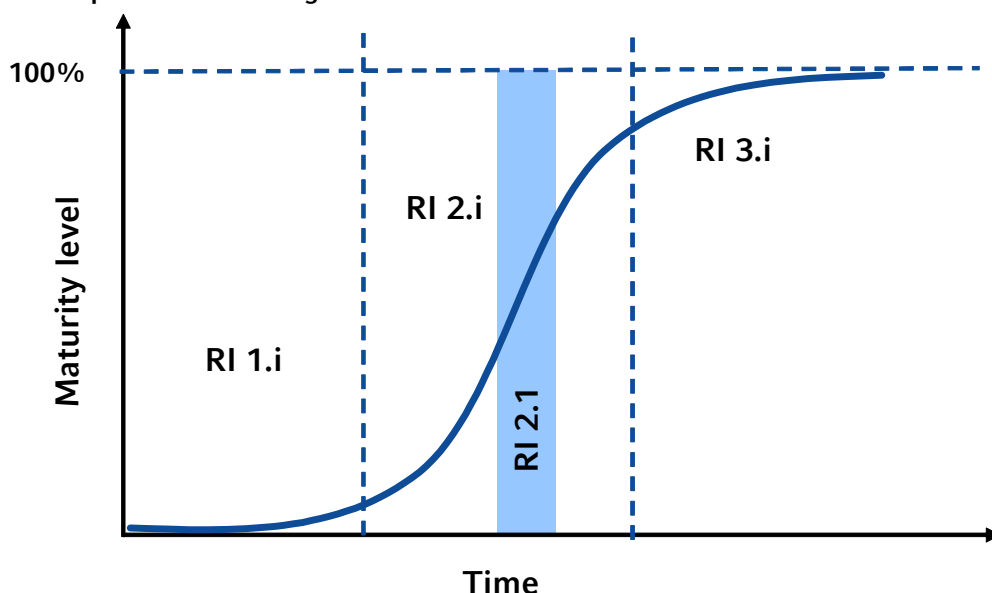
Responsible Investing – increasing in volume and sophistication

The Responsible Investing (RI) discipline has undergone nothing short of a spectacular transformation in recent years.¹ The market has continued to grow strongly both in absolute and relative terms. Based on Eurosif numbers, we estimate that the overall RI volume will increase to about €6,500bn by the end of this year (CAGR of 14% versus the 2009 figure) – which suggests that it no longer represents a small niche market. Large institutional investors, which – due to their size – are often tagged as ‘universal owners’, have taken the lead in setting RI standards. The research methodologies applied and the investment processes implemented have become increasingly advanced and sophisticated, while rudimentary techniques have lost ground.

The RI maturity process – it’s an evolution, not a revolution

The penetration of an innovation is usually described using an S-curve. And this is also applicable to Responsible Investing. Responsible Investing is not a revolution, but an evolution. We would suggest that the RI learning curve can be divided into three levels, as shown in the chart below. The history of the modern RI discipline covers about 30 years so far, and we are right in the middle of the steepest part of the curve, and have started to enter what we would call stage 2.1.

The Responsible Investing (RI) S-curve



Source WestLB Research, 2011

At stage 1.0 the main focus was on ethical and/or philanthropic considerations and the methodologies used were very simple in nature, basically negative screening only. At stage 2.0, which we are currently still in, the emphasis shifted towards the integration of ESG factors into investment decision making and to active ownership (proxy voting and engagement). A lot of advances have undoubtedly been made in this area over the last

¹ We understand Responsible Investing to describe an investment approach or style that (1) takes a long-term view, (2) considers ESG factors as potential drivers of investment returns and risks and (3) takes the impact (i.e. the external effects) of the investment into account. To be Responsible Investors, in our view, it is not sufficient just to integrate ESG factors in some way or another in investment decision making.

couple of years. The concepts and methodologies used have become smarter, the investment processes more rigorous and efficient.

Nevertheless, there still remains much to do. For example, it is by no means clear yet how exactly ESG information should be integrated into a DCF model. And there is not even consensus about whether we are talking about integrating ‘unmasked’ and decomposed on-balance sheet factors (i.e. environmental liabilities) or factoring in off-balance sheet (i.e. intangible) items.

At the same time the next line of development has begun, and this is what we would call level 2.1. This describes the move towards a consistent multi asset approach to Responsible Investing. It is closely intertwined with some of the open questions regarding integration and active ownership, which is why we have not jumped to level 3.0 already. Within our ‘theory of change’, level 3.0 is reserved for describing the phase of final maturity of the RI discipline, including processes and methodologies used, as well as the degree of market penetration (i.e. ‘mainstreaming’). Whether level 3.0 will ever be reached is by no means assured and will largely depend on the answers given at the 2.1 level.

The multi asset perspective and the ‘Genius of the AND’

Many large institutional asset owners (in particular pension funds and sovereign wealth funds) have started to move into alternative asset classes over the past few years or so and today represent key players in these markets. With their market power, they are the ones who finally determine the rules of the game. Parallel to the diversification process that was driven by financial risk and return considerations and triggered by the experience of bursting stock market bubbles, the same group of asset owners began to embrace RI ideas, not least triggered by the debate around the effects of climate change on the value of their investments. Today they are the main protagonists of the Principles for Responsible Investment, the UN PRI.

The challenge that these investors – often characterised as ‘universal owners’ – face, is that they pressed ahead with their move into alternatives without having established a systematic and consistent multi asset approach and now need to fill the gap that has emerged retrospectively.

To do so we propose a combination of the concepts of ‘strategically aware investing’ (SAI), a term introduced by RI legend Matthew Kiernan, and which in our interpretation describes the idea of integrating ESG information in order to enhance the quality and added value of financial analyses and investment decision processes, and of ‘Impact Investing’, which calls for a systematic consideration of non-financial investment impacts. As a result we present the main features of a strategic asset allocation (SAA) process for the entire RI portfolio (including the alternative asset classes) and an ‘enhanced passive’ investment process (including tactical asset allocation (TAA) and selection) for the conventional asset classes that make up 70% of our model portfolio. Besides helping to address some of the perceived contradictions of Responsible Investing as it is practised today (e.g. related to cases like BP), our approach is rich in implying changes to the current status quo.

Among other things, it suggests changes from:

- a bottom-up view/process to a top-down view/process;
- from asset selection to asset allocation;
- from low-impact conventional asset classes to high-impact alternative asset classes;
- from mean-variance driven asset allocation to asset allocation that considers newly emerging risks in a forward-looking manner and considers the impact sensitivity of asset classes;
- from passive investing to enhanced passive investing;
- from duty-driven to results-oriented active ownership practices;
- from an opportunistic approach to an approach that takes the external effects of investing and non-financial impact into account.

In developing our concept we touch on several related areas of interest, such as Behavioural Finance and Responsible Investing, 'black swan' risks and ESG integration (the BP and Tepco cases), universal ownership and the 'internalisation of external costs' argument. Finally, to reflect our multi asset approach we take a distinct look at the main features and the current status quo of each of the most relevant alternative asset classes (commodities, Private Equity (PE), infrastructure and real estate, hedge funds) from an RI perspective.

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Responsible Investing 2.1 – trends, challenges, and new answers

Over the past few years, the RI theme has undergone nothing short of a spectacular transformation in quantitative and qualitative terms. Much work still lies ahead before maturity is reached, however. The next line of development has begun, and this is what we would call level 2.1. This describes the move towards a consistent multi asset approach to Responsible Investing. It is closely intertwined with some of the open questions regarding ESG integration and active ownership.

Key takeaways

- We expect European RI volume to grow to €6,500bn by the end of 2011.
- We consider the potential influx of corporate pension capital into RI as the main catalyst for reaching a new level/dimension/quality of market penetration.
- ESG integration remains the name of the game. Going forward more specificity is needed with regard to questions about 'how to do it' and 'how to measure added value and impact'.
- With respect to the handling of 'black swan' risks from an RI perspective, we propose a hybrid approach that includes an anticipatory exclusion component and a flexible rating component. However, the divestment dilemma for universal owners remains.
- With regard to passive investments we found a general lack of strategic approach to ESG integration. We recommend an 'enhanced passive approach'.
- We propose an interpretation of Responsible Investments that is (more than) the sum of the two parts, a financial value driven component that takes ESG factors into account, and a component that is driven by non-financial impact considerations.

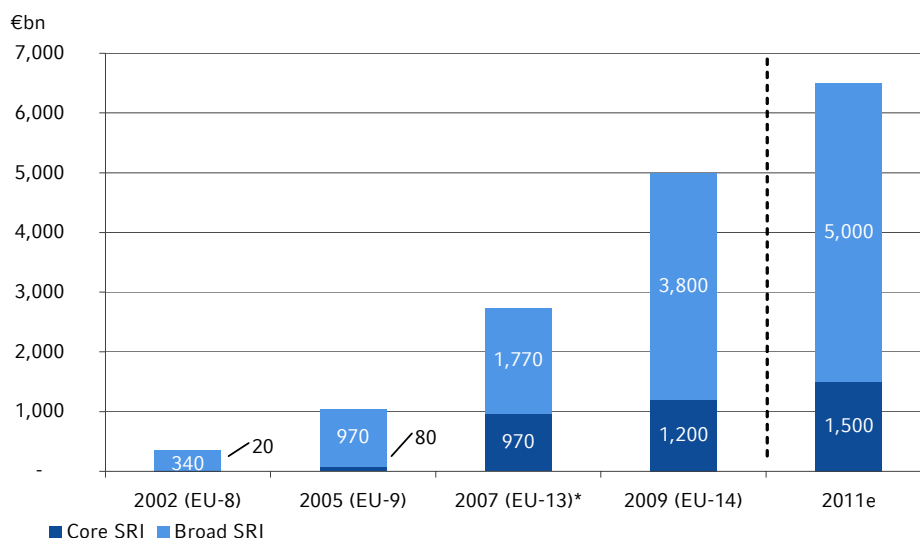
The background

Increasing in volume and sophistication

The RI discipline has undergone nothing short of a spectacular transformation in recent years. The market has continued to grow strongly both in absolute and relative terms. Based on Eurosif numbers, we forecast an increase in overall European RI volume to about €6,500bn by the end of this year (CAGR of 14% when compared to the 2009 figure) – which indicates that this is no longer a small niche area.² Large institutional investors, which – due to their size – are often tagged as 'universal owners', have taken the lead in setting RI standards.

² Based on EFAMA (European Fund and Asset Management Association) figures, the RI market share relative to the total market would be around 20%.

RI market in Europe according to Eurosif

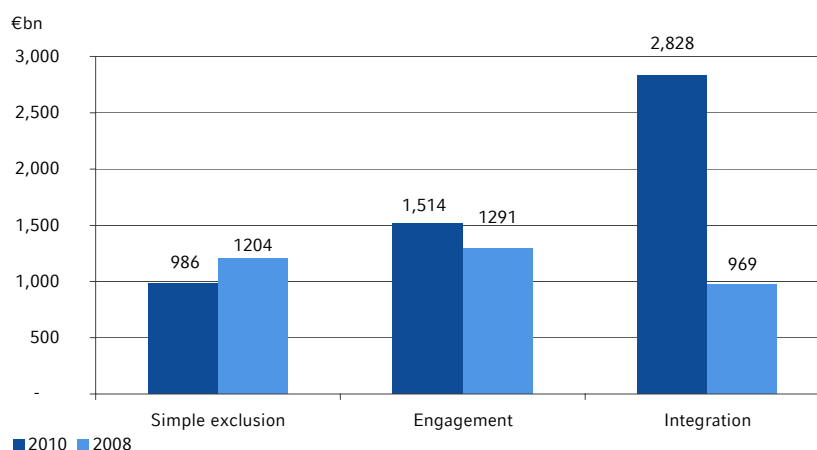


Source Eurosif, European SRI study 2010

Maturing of research methodologies and investment processes

The research methodologies applied and the investment processes implemented have become more and more advanced and sophisticated, while rudimentary techniques have lost ground. First and foremost this is reflected in the increasing absolute and relative significance of the so-called integration approach, which in its narrower sense describes factoring in ESG factors in investment decision-making and the consequent enhancement of traditional financial analysis by the incorporation of these factors. According to the Eurosif numbers, integration is not only the most important market segment within the 'Broad SRI' category, it is also the most strongly growing one, whereas simple exclusions have lost ground even in absolute terms.

Broad SRI strategies



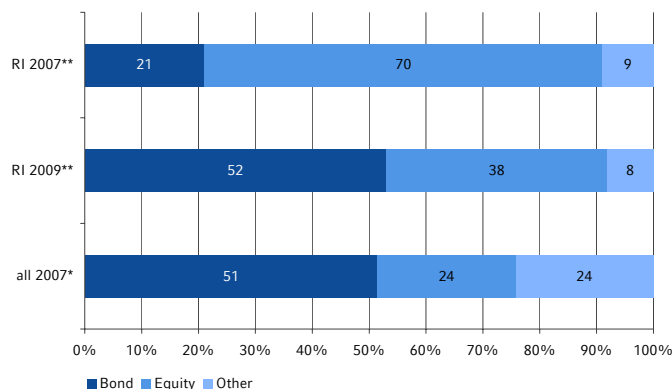
Source Eurosif, European SRI study 2010

Focus is shifting away from listed equity

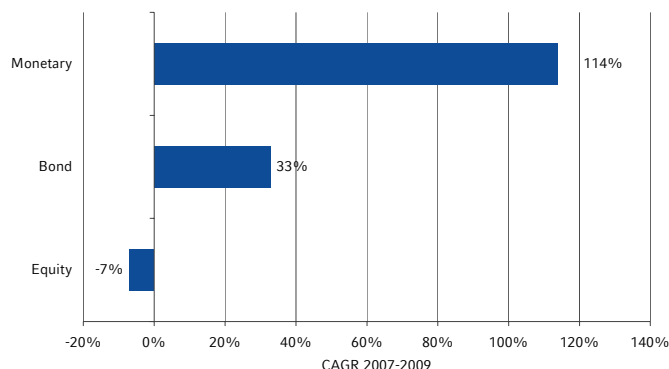
Thirdly, the focus in Responsible Investing has begun shifting away from listed equity to other asset classes driven by the large institutional asset owners (in particular pension funds, foundations and sovereign wealth funds) that have strengthened their efforts to roll out their RI policies in order to fulfil their commitment as signatories of the UN Principles for Responsible Investment (PRI). This claim is supported by both anecdotal evidence (i.e. the growing number of conference and workshop events that look at other asset classes), and by empirical facts: for example, while AuM in bonds (+33%) and

money market instruments (+114%) grew strongly, according to Eurosif numbers, listed equity has lost some ground (-7%). The consequence was a shift in asset allocation numbers, which was particularly strong in some countries such as Germany.³

Asset allocation in RI investments (Germany): clear imbalance in favour of equities is fading



Growth of European SRI funds 2007-2009 by asset class**



Source * EFAMA Asset Management in Europe 2009, ** Eurosif, European SRI study 2008/2010

Fixed income: lack of investor relations activity and sell side research coverage

Just looking at listed equity vs fixed income (FI), two significant gaps have not yet been closed. Firstly, there is the gap in FI investor relations activities of listed companies. We have heard about only a very few cases where ESG played a role in this segment (e.g. at a conference or workshop organised by a broker), which is in sharp contrast to the equities side. Secondly, to date there is practically no sell-side research coverage in the FI segment and there's also a marked lack of academic research studies looking at the impact of integrating ESG factors in FI investing (see p. 12 and the following). With respect to alternative asset classes, the shortfalls may even be larger, but we have no doubt that the change process has started here as well and that it will continue.

The challenges – the big picture

Integration – but how?

Integration: support from the reporting side

We share the view with many others that the trend towards integration will continue and that it will remain one of the key focus areas going forward. Our expectation is supported by the fact that integration is not only a topic on the investment side, but is also determining the agenda on the reporting side (see for example the International Integrated Reporting Committee (IIRC) or the One Report initiative). In our view, integrated reporting will automatically lead to a more focused consideration of investors' needs, something which to date has rarely been the case in conventional CR reporting. We expect the two sides, i.e. investment and reporting, to drive each other on, and that this interplay will be a main catalyst for the mainstreaming of Responsible Investing.

No common understanding about what integration actually means

However, there are also lots of challenges ahead. In particular, there is no common understanding about what integration actually means. There is no clear definition and a lot of flexibility in interpretation. According to the Eurosif survey (see table below), for example, the appearance of ESG information in an analysis spreadsheet is seen as a sufficient basis to talk about integration, without it being clear whether or how the information provided is actually used (e.g. as part of a DCF analysis). The point about

³ One factor that certainly influenced the results was the relative revaluation of the markets and differences in net inflows of capital against the background of the financial crisis and a marked increase in risk aversion.

direct and regular cooperation between ESG and financial analysts is not really meaningful if one knows nothing about the quality of the cooperation.

Eurosif 2010 survey: In terms of integration practices, respondents that do practise integration provided the following information:*

I. Practices applied for the integration of ESG issues in the investment process	Thematic analysis and research on ESG issues fed back to mainstream analysts	45%
	ESG analyst(s) working directly and on a regular basis with mainstream analysts	29%
	ESG rating(s) systematically included in standard analysis spreadsheets	8%
II. Integration practised on	Each company of portfolios	33%
	A selection of companies based on specific risks / sectors identified	31%
	On a case-by-case basis	36%
III. Extent of providing dedicated ESG training for the organisation's non-ESG specialist investment management staff	Small extent	32%
	Moderate extent	25%
	Large extent	11%

* Note: For Section I (Practices applied...), multiple answers were possible. **Source** Eurosif, European SRI study 2010

Doubts about the true significance of integration

As a consequence, there's a lot of doubt about the true significance of integration. The lack of specificity clearly harbours the risk of overestimating its market relevance. For example, it 'costs' an institutional investment manager nothing to state (for whatever reason) that it manages its assets in an integrated manner. Hence, the volume of AuM that is subject to 'genuine' integration is probably much smaller than the €2,828bn shown in the Eurosif survey. The key challenge going forward thus remains to define what integration actually means and to demonstrate what difference incorporating ESG factors ultimately makes to the results of investment analysis.

ESG analysis: decomposition of on-balance sheet items or analysis of off-balance sheet factors?

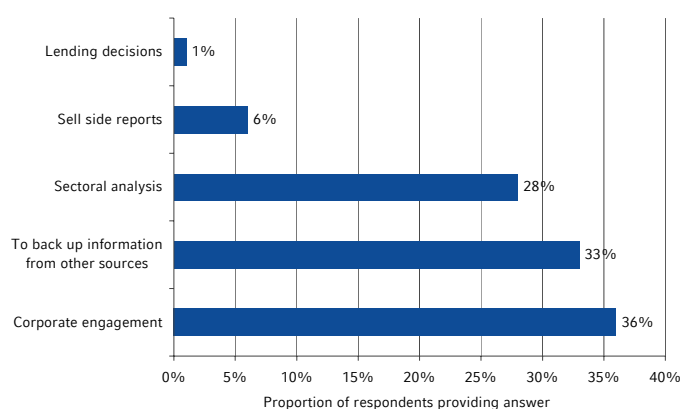
For example, there seems to be a lack of common understanding in the analyst community whether integration means to decompose or extract and properly evaluate items that can be found on the balance sheets and income statements of companies (e.g. environmental liabilities) or whether it is about factoring in off-balance sheet items (e.g. intellectual capital), which are considered to be the true main drivers of company value by some protagonists. Clearly, it is unlikely that we will see a complete standardisation of approaches and philosophies. After all, this would destroy their commercial value. What is needed, however, is more transparency about what type of integration one is talking about and then linking this higher degree of specificity to the measurement and analysis of the investment results. What is also necessary in this respect is a significant increase in the efforts to deliver performance-related research for all asset classes, i.e. not only for listed equity.

Lack of knowledge about how to integrate ESG information

Another challenge is that anecdotal evidence tells us that financial analysts in general do not really know what to do with the ESG information that is currently available. This certainly is one driver behind the efforts in the integrated reporting area.⁴ The lack of knowledge about how to incorporate ESG information in financial models is even apparent in those cases where the task still appears to be comparatively straightforward, such as processing climate data. For example, a survey of investors carried out as part of the Carbon Disclosure Project (CDP, 2009) showed that the climate data collected by the CDP are primarily used for corporate engagement. There is currently only limited genuine integration in financial models.

Use of CDP data by investors*

If you use CDP data, in which areas do you do so?



Objections to the use of CDP and other greenhouse gas data in financial models

- Lack of clarity regarding CO₂ pricing
- Lack of clarity regarding the timeframe of obligations arising from emissions rights trading
- Lack of clarity regarding the pricing of certificates
- Lack of comparability between responses
- Incomplete sector coverage
- Lack of a regulatory framework
- Many investors focused on the short term

* Based on information provided by CDP signatory investors in an online survey. Responses were provided by 87 individuals from 80 CDP investors.

Source CDP, 2009

Doubts about materiality of ESG information still exist

Besides the lack of knowledge about how to do it the two main reasons for this observation are firstly the lack of standardized high-quality data (lack of comparability) and secondly a lack of conviction among potential users that this information is truly material. We do not want to go deeper into this, because this would distract us too much from our main topic. But the size of the challenge becomes apparent when thinking about topics that are not as easily to digest as CO₂, like biodiversity for example.

'Black swan' risks – lessons to be learnt from the BP and Tepco cases

Last year BP and the disaster in the Gulf of Mexico, this year Tepco and the nuclear catastrophe in Japan – these two cases have shown again how strong the impact of a single event on the viability even of the largest companies and on shareholder returns can be. Not only in the case of companies from the nuclear or extractive industries, the type of event we have seen in the BP and Tepco cases, which is characterised by a very low probability of occurrence and a very high material economic impact, is often related to ESG issues. We consider this both a big risk to the stipulation to integrate ESG factors into investment decision making, but also an extraordinary opportunity. There is probably no better way to identify 'black swan' risks or be prepared to react to their occurrence than to have a sensible extra-financial research process in place. While theoretically this claim may be invulnerable, the practice was not able to live up to the

⁴ Interestingly, analysts might get some direct help from the corporate sector, as the example of Danone has shown. Speaking at a seminar Paris in late 2010, Pierre-André Terisse, CFO at Danone, said the company had started experimenting with the issuance of corporate bonds that would base part of their return on the achievement of ESG targets. The early-stage concept, he said, would be that Danone increase the coupon if it did not meet certain ESG targets and vice versa. In our view, however, this approach seems to be basically flawed, since by basing a higher coupon on missed sustainability targets investors would benefit from ESG underperformance.

expectations. On balance it seems fair to say, for example, that ESG analysis failed to give a timely signal about the extraordinarily high risk BP was facing, and that the RI community as a whole has been unable to give a convincing answer as to how to deal with cases like BP or Tepco when they have occurred, causing a lot of reputational damage to itself.

A more transparent engagement process is needed including a systematic measurement of impact

The critique not only unfolded with respect to the integration approach in the narrower sense, but also in terms of the engagement approach, the second most significant segment within the 'Broad SRI' category of Eurosif (see chart on p. 6). As with integration, engagement suffers from a lack of specificity. What does it actually mean when an investor claims to engage with a company driven by its commitment to RI principles? It is highly necessary, in our view, to set up a transparent process, including a definition of targeted impact areas and a measurement of impact with the help of key performance indicators.

In our view the upshot from the challenges we have touched upon above is that the RI community needs to put more effort into defining a common basis and investment framework in which the different lines of thinking can find a joint home but at the same time keep their distinctiveness. We can imagine that the 'Impact Investing' approach (see p. 26 and the following) could deliver such a framework or at least provide some guidance on its development. Furthermore, it is necessary to continue the discussion around semantics and the correct framing of ESG investment approaches.

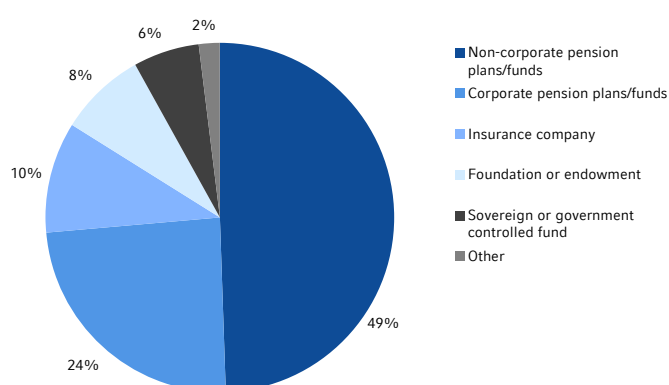
Multi asset RI – developing a consistent approach

Large institutional asset owners are driving the process

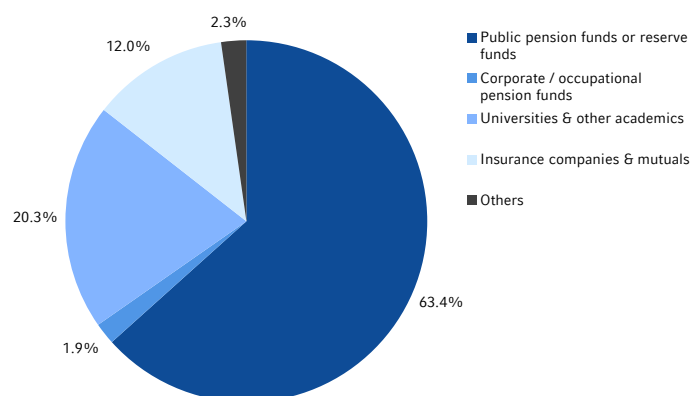
The second main challenge (besides making ESG integration more concrete and demonstrating its added value) is about how to shape the transition of the RI approach from one focused on traditional large cap listed equity to a consistent approach across all relevant asset classes. The driving force behind this is the significance of large institutional investors, in particular public pension funds. This is not only because of their sheer size but also their high level of engagement in advancing the RI approach, for example, as signatories of the UN PRI.

Significance of pension funds within the RI community

UN PRI Progress Report 2010 – Breakdown of number of asset owners by category⁵ Type of institutional investors (by volume of RI assets)



Source UN PRI, 2010



Source Eurosif, 2010

⁵ The survey was completed by 433 signatories (170 asset owners and 263 investment managers); Among investment manager responses, a total of 73% now come from mainstream organisations. Only 15% categorise themselves as dedicated 'ethical' or 'SRI' fund managers.

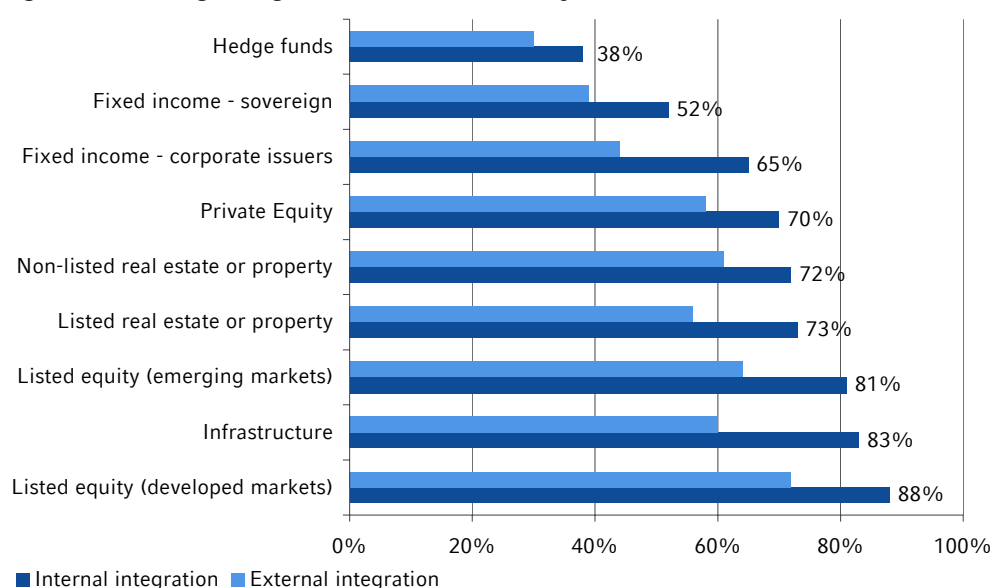
'Universal ownership' and fiduciary duty

Their initiative can be seen to follow from two factors: firstly, they have broadly diversified portfolios and are usually exposed to global market risks and/or economy-wide systemic risk and have long-term liabilities. Hence, they are considered to be 'universal owners', i.e. asset owners that cannot easily escape from risks that are shifted from one section of the economy to the other or are deferred to the future. This explains, for example, why the external costs generated by a company matter more to them than to other more focused and more short-term investors. Secondly, but related to that is the re-definition of the fiduciary duty towards taking extra-financial factors into account that has taken place over the last couple of years. Against this background the leading asset owners and PRI signatories have stepped up their efforts to roll out RI policies across all of their portfolios and asset classes. The degree to which this has happened so far, however, is strongly varying, as the responses to the latest PRI survey show (see chart below).

Integration: listed equity and infrastructure to the fore

The asset classes in which the highest percentage of signatories have integrated ESG issues are listed equities (both developed and emerging markets), and infrastructure. The asset classes with the lowest percentage of integration are hedge funds and sovereign fixed income. This is true for both internally and externally managed funds, although across all asset classes the percentage of signatories that integrate is higher for those that manage assets internally.

Signatories integrating ESG issues across major asset classes



Source UN PRI, 2010

Investment managers have begun to respond to the new requirements

Again, one might speculate to what degree these numbers are upwardly biased due to the window-dressing efforts of survey respondents. Our impression from looking into all these asset classes in more detail is that there is indeed a lot of activity going on, not least reflected by the fact that the external investment partners of the big institutional asset owners have begun to respond to the new requirements and have done so even in areas one would not have expected (e.g. hedge funds). Obviously, investment managers have understood that their ability to integrate ESG factors into their investment processes has become a factor that co-determines their position in a highly competitive market.

Taking common risk sources into account

One key takeaway of our analysis is that the approaches in the different asset classes are very different, which may not come as a big surprise, since the requirements are very different as well. However, we interpret this observation also as a signal that the maturity processes that are at work here are simply not in sync yet. In many cases, we are still in a very early phase of the learning curve. Moreover, however, our research indicates that the high ambitions of a majority of PRI signatories have not yet led to a consistent and coordinated implementation at the operational level. It is necessary, in our view, to stick to the same guiding principles across all asset classes, for example, and not to abstain from these on an opportunistic case-by-case basis. It is also necessary to manage portfolios from an integrated multi asset perspective that takes common thematic risks into account.⁶

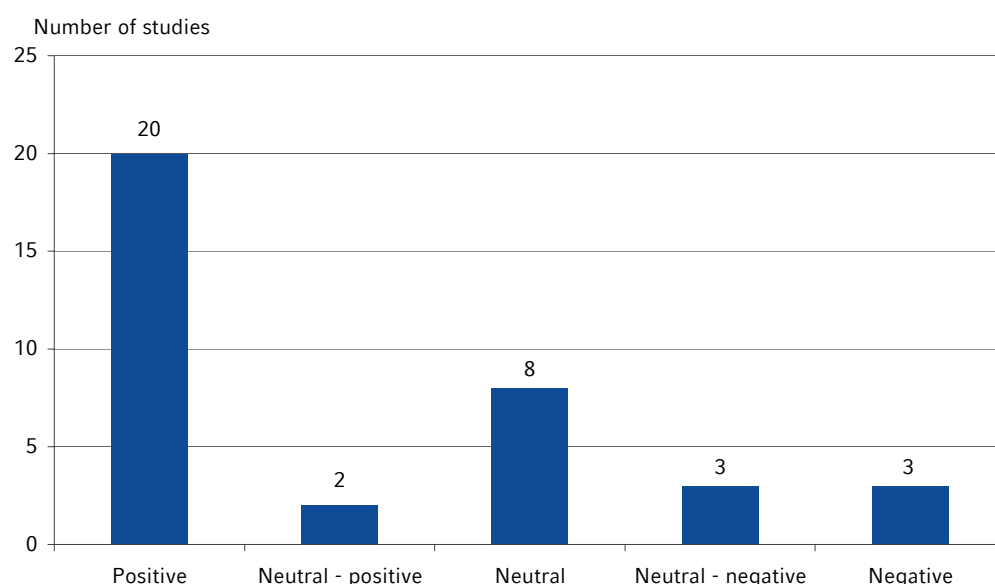
The challenges – a look at some specific issues

‘Demystifying performance’ – lack of research in other asset classes

Even in the academic world, the vast majority of analyses look at equities

As explained above, a critical factor for the acceptance of the integration idea by financial analysts remains the delivery of evidence about the relevance of ESG factors for financial performance. So far, research in this area has been heavily biased towards large cap listed equity. For example, that neither the Mercer/UNEP FI overview study ‘Demystifying performance’ nor Mercer’s follow-up study includes any reference to findings in the FI segment or alternative asset classes. A total of 36 academic studies were evaluated together with a further 10 prepared by bankers/brokers.

Relationship between ESG factors and financial performance



Source UNEP FI Mercer (2007), Mercer (2009)

Very few studies examine the relationship between ESG factors and FI performance

It is not as if Mercer presented a one-sided view of the situation. In actual fact, academic studies into the relationship between ESG factors and performance in the FI segment are extremely rare, let alone other asset classes. And we are not aware of any ‘commercial’ studies.

⁶ This is not as trivial as it sounds, since it implies moving away from a class-by-class thinking to a risk-source driven thinking (see the example of climate risk and asset allocation addressed on p. 106 and the following).

Focus is on the relationship between credit- and ESG ratings

The few studies that do exist focus on the relationship between credit ratings and sustainability ratings, which while very interesting in themselves are ultimately of only limited significance for investors.⁷ Empirical investigations that assess the impact of ESG factors on companies' cost of debt go one step further. Prime examples include the studies conducted by the European Centre for Corporate Engagement (ECCE) at Maastricht University. E.g., Bauer/Derwall/Hann (October 2009) found that, consistent with the theory that human capital management influences organisational performance and risk, employee relations can explain the cross-sectional variation in credit risk. They constructed an aggregate measure for the quality of employee relations based on the firm's engagement in employment practices and policies, and documented that firms with stronger employee relations enjoy a statistically and economically lower cost of debt financing, higher credit ratings and lower firm-specific risk.

Cost of debt systematically influenced by environmental strengths and concerns

Similarly, in a research note that won the Moskowitz Prize 2010, Bauer/Hann (June 2010) provided support for the view that the credit standing of borrowing firms is influenced by legal, reputational and regulatory risks associated with environmental incidents. Using environmental information on 582 US public corporations between 1995 and 2006, they documented 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.

Maximum implied change in yield spread is 64 basis points

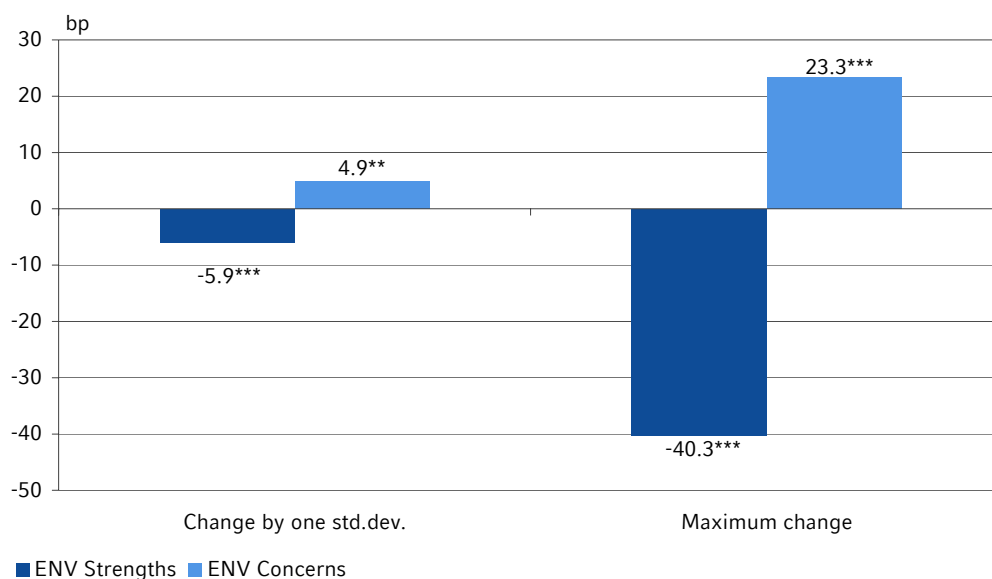
The authors calculated that a standard deviation increase in their 'Environmental strengths' measure (composed of 'Beneficial products', 'Pollution prevention', 'Recycling', 'Clean energy', and 'Other strengths')⁸ corresponds to a reduction in the yield spread by six basis points, while a standard deviation increase in 'Environmental concerns' measure (composed of 'Hazardous waste', 'Regulatory problems', 'Substantial emissions', 'Agricultural chemicals', 'Climate change', 'Other concerns')⁹ is associated with an increase of the yield spread by five basis points. The maximum impact of a combined change in their environmental performance measures on the annual cost of debt is estimated at 64 basis points (cf. chart below).

⁷ We have examined this link as well based on our own extra-financial ratings (see the results on p. 110 in the Appendix) and have identified a statistically significant, positive relationship. To be useful for the investment process, for example, changes in ESG ratings would need to have predictive power for subsequent changes in credit ratings.

⁸ Statistically significant at 1%-level are 'Beneficial products' and 'Clean energy'.

⁹ 'Regulatory problems', 'Substantial emissions', 'Agricultural chemicals' are statistically significant at 5%-level; 'Climate change' at 1%-level.

Cost of debt regression results – impact of a change in environmental (ENV) performance measures on cost of debt (in basis points)



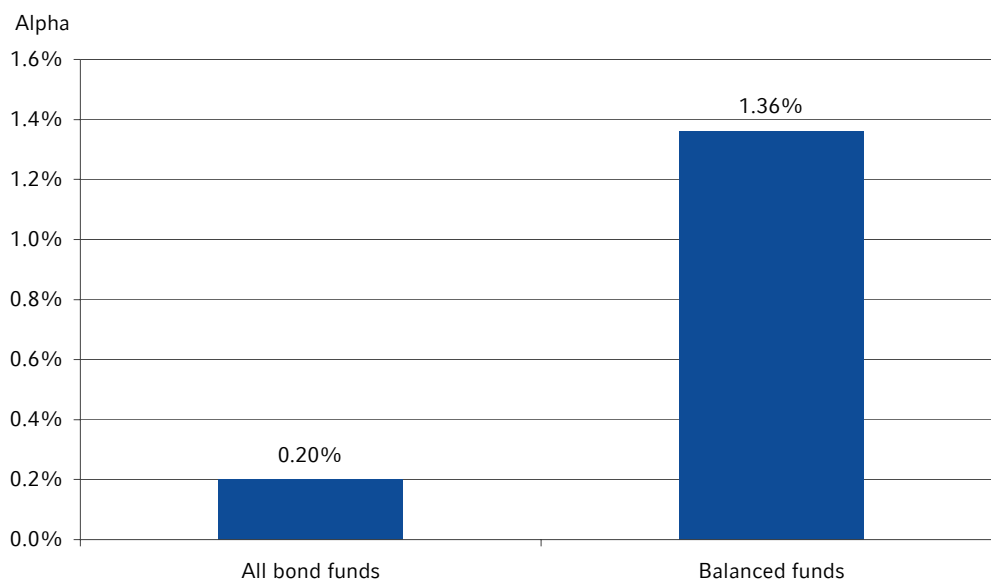
** significant at the 5% level; *** significant at the 1% level

Source Bauer/Hann, 2010

Study by Derwall/Koedijk gives risk-adjusted difference in returns of 0.2 percentage points per year

The study by Derwall/Koedijk (2008) also appears useful from an investment perspective. The authors investigated the US mutual funds market between September 1987 and March 2003, in other words a very long, representative period. They began by testing a four-factor model that encompassed market sensitivity, default risk, option risk and equity market risk. The risk-adjusted difference in returns between RI bond funds and conventional bond funds was 0.2 percentage points per year (based on net returns and after costs).¹⁰ While this does not seem to be spectacularly high, it is certainly not irrelevant in economic terms. In any event, it is clear that over a long, representative period RI bond funds are able to keep pace with conventional bond funds even after (additional) costs have been deducted. As the results are not statistically significant, however, we would not wish to refer to this as 'assured' outperformance either.

¹⁰ At the same time, there was an underperformance of -0.13% in the high-yield sub-segment (not statistically significant).

Alpha/risk-adjusted excess return* (four-factor model)

* significant at the 5% level

Source Derwall/Koedijk, 2008

Remarkable average excess
return of balanced funds

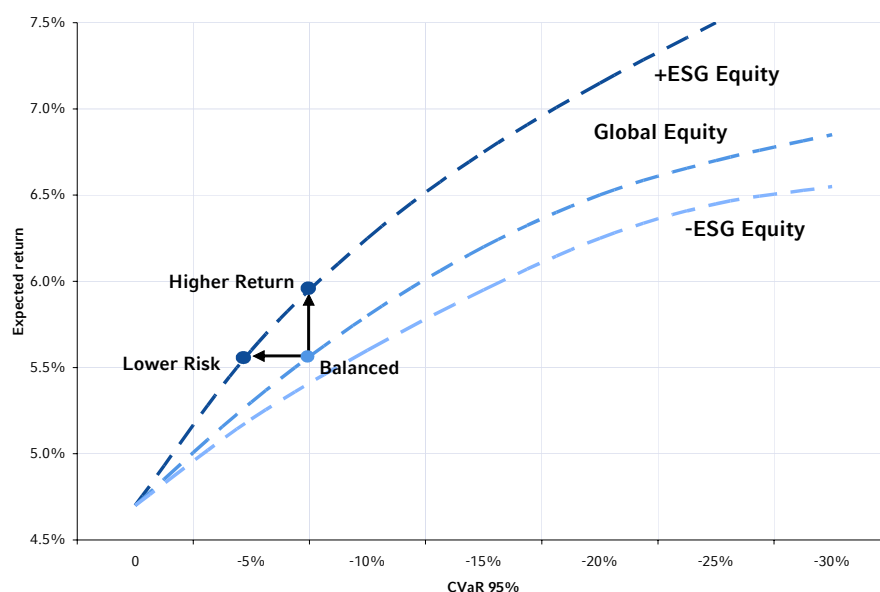
The analysis of the balanced funds segment produced a clearer picture. Here the risk-adjusted excess return for RI funds over conventional funds is a much higher and statistically significant 1.36 percentage points per year, which we find remarkable.¹¹ In the context of balanced portfolios it would be particularly interesting to see, however, how the interaction between equity and bond portfolios selected in line with ESG criteria influences overall performance. Given the general lack of studies beyond the equity-related ones, it comes as no surprise that there is (still) very little literature on this admittedly highly specialised topic. We did identify one current study that is making moves in this direction, however.

risklab simulation study...

The *risklab* think tank, part of the Allianz Group, conducted a simulation study in which it examined the impact of incorporating clearly defined and modelled ESG factors on the returns of mixed portfolios over an investment horizon of 20 years. The study simulated 10,000 different performance paths for three alternative structures of the equity sub-portfolio: Global equity (market-average ESG exposure), +ESG (positive ESG exposure) and -ESG (negative ESG exposure). The results are shown in the chart below.

¹¹ Our own investigations into the European mutual fund market also produced very similar results. We analysed the performance of RI funds based on data from Morningstar. The average active return of the balanced funds class over a period of five years was 1.88%. (see chart on p. 109 in the Appendix). We calculated the active returns by deducting the corresponding 'segment return', in other words the average return of all funds in the corresponding peer group as defined by Morningstar, from the return of each individual fund and then determining the arithmetic mean.

RI in multi asset portfolios – simulation analysis



Source risklab, 2009

... examines the impact of ESG factors on the returns of multi asset portfolios

At the end, three multi asset portfolios were compared: the 'Balanced' portfolio – the starting point that represents the market or null portfolio (equity component around 30%) – the 'Lower Risk' portfolio, which replicates a portfolio on the +ESG efficient frontier and reduces the risk compared with the null portfolio for identical return expectations, and the 'Higher Return' portfolio, which increases the expected return compared with the starting point for the same level of risk. The 'Higher Return' and 'Lower Risk' portfolios both lie on the +ESG efficient frontier. As a result, these two sample points provide a measure of the added value in terms of the overall portfolio if we select the +ESG variant, in other words the variant with positive ESG exposure, when putting together the equity portfolio. The results of the simulation analysis are summarised in the table below.

Impact of ESG factors on the performance of mixed portfolios – results of a simulation analysis over a time period of 20 years (in %)

	Expected return	CVaR 95%	Volatility
Portfolio 'Balanced'	5.50	-7.40	6.20
Portfolio 'Lower Risk' (+ESG)	5.50	-5.10	5.20
Portfolio 'Higher Return' (+ESG)	5.80	-7.40	6.50

Source risklab, 2009

The results are genuinely impressive. In terms of the overall portfolio, positive ESG exposure leads either to a reduction of around 30% in the risk level (based on 95% CVaR)¹² for the same expected return or to an increase of 0.3 percentage points per year in the expected return for the same level of risk.

Number of ESG investment approaches in the FI segment expected to increase

While we would not read too much into these results – they are too 'predetermined' for us to do so – we do believe they are probably pointing in the right direction. Incorporating ESG factors should have a positive impact on the risk/return profile of multi asset portfolios. We expect this message to attract considerably more interest over the coming years, leading to a marked increase in RI approaches in all relevant asset classes.

¹² Conditional Value at Risk (CVaR): average expected return of worst-case scenarios (here: bottom 5% of the distribution).

‘Black swans’ – a litmus test for the concept of taking ESG into account

Dealing with black swan risks: is ESG integration part of the problem, or part of the solution?

Last year BP and the disaster in the Gulf of Mexico, this year Tepco and the core meltdown in Fukushima – ‘black swans’ seem to appear much more frequently than their a priori probabilities suggest.¹³ One question raised by these catastrophes is how investors and asset managers who pursue an RI approach should deal with their investment in reaction to/or of course even better in anticipation of black swan events. The RI industry has come under heavy fire in the media as numerous RI funds kept BP shares in their portfolios many weeks after the event and despite the true extent of the disaster becoming increasingly apparent. With regard to Tepco one can be sure that Responsible Investors will be asked why they have not excluded ‘nuclear’ from the outset. Now of course one should be cautious not to fall victim of the typical hindsight biases that go along with black swan events after they have happened. Nevertheless, the Tepco case should have made clear that exclusion decisions not only have an ethical dimension, but may also be highly relevant in terms of financial risk and return. They can be useful heuristic decision making tools for investors.

Challenging the RI community

How credible is the RI community’s claim to generate added value relative to traditional investment decision making by taking non-financials into account? For RI antagonists the BP and Tepco cases have been grist to the mill and triggered lots of cynical comment. For the protagonists, on the other hand, they are just another proof for the materiality of and the urgent need for ESG integration. For sure the conflict between these two camps will continue going forward. Instead of contributing to all the ‘noise making’ that goes along with this struggle for ‘interpretative dominance’, we will focus on some very practical questions that have been shifted into spotlight by the two events. What these events have shown, at any rate in our view, is that the processes of taking ESG into account need to be carefully reviewed and improved. Three questions need to be addressed in this respect:

- ESG integration: is ESG truly enhancing the quality of analysis?
- ESG rating based processes: how can ratings better reflect black swan risks?
- Engagement: what are the options to RI when engagement on a specific issue had no impact?

ESG integration and black swan risks

ESG factors as early warning signals?

Here we are talking about ESG integration in the narrower sense, i.e. that integration of ESG factors in risk/return focused investment analyses. The question that arises with respect to the BP case simply is whether one is considering the ‘right’ indicators or factors that are able to give an early warning signal with respect to black swan risks. Note that this is completely independent of the investment style or philosophy a manager follows, i.e. it applies to conventional managers (those who do not explicitly use ESG information in their analyses) as well. We firmly believe that ESG factors can play an important role in this respect, but their added value finally comes from the ability of the analyst to pick those ones that are truly material. With hindsight, for example, one could say with respect to the BP case, that it would have been wise to look at BP’s significantly below-market average maintenance investment figures.

¹³ A ‘black swan’ event is a very rare, low probability event (which as a consequence comes as a surprise to the observer) that has a major impact and that causes some typical behavioural biases on the part of observers and decision makers (e.g. hindsight biases). Black swan events cannot meaningfully be integrated in standard decision-making and financial valuation models based on expectation theory and standard probability distribution assumptions.

Deep knowledge about a company's activities is a necessary condition

The individual black swan risks the companies are facing may be very different. The element that unites them all is that their occurrence could threaten the company's continued existence, either as a result of claims for damages or by destroying the brand. Issues relating to the environment, to the health of customers and employees and to competition law are certainly particularly relevant. Creating a negative list of this kind for the entire company spectrum and then determining the exposures of the individual companies may be a structural element in the analysis process that might help to systematically approach the challenge. Ultimately, it's all about having an in-depth knowledge of the companies one is investing in, and how far this is converted into quality investment decisions, which is far more art than science.

Black swan risks and rating-based investment processes

With respect to investment processes that are based on ESG ratings, the criticism that emerged around the BP case has essentially focused on two points:

- Inadequate consideration of catastrophe risks in the rating process.
- Excessive delay in adjusting ESG ratings after catastrophic events.

Can rating adjustments be made quick enough to be of use in investment decisions?

First of all, a few thoughts about the 'delay' charge. We believe that the implications of events such as these for a company's rating are simply too complex, making it impossible to comply with demands for a rapid adjustment in the rating in a suitably comprehensible way. It simply takes time to evaluate and incorporate the relevant information. This is time that investors do not have, since – as we have seen – the company or investment concerned can suffer a dramatic fall in value in the meantime. Thus, speed is undoubtedly a major factor when it comes to dealing with catastrophe scenarios. As stated above, however, it is not possible to incorporate it quickly enough into the rating itself – not least because it does not simply involve adjusting just one variable (e.g. the number of oil spills caused by a company).¹⁴ It is actually necessary to check valuations for many aspects of the rating and not just those directly related to environmental indicators. These include an evaluation of management processes and the general quality of corporate governance. Such a comprehensive revaluation cannot be completed overnight. In our view, therefore, it would be barely credible to carry out an ad hoc rating adjustment in the wake of a catastrophe such as in the BP or Tepco cases.

A parallel, newsflow-driven process needs to be established

Our solution is to introduce a continual, newsflow-driven monitoring process that runs in parallel to the actual rating, leading to a company's rating being placed under review in the event of significant incidents such as those described here. This kind of 'flicking of the switch' results in the company concerned no longer being eligible for our model portfolio – at least until it has been given a new rating that reflects a comprehensive evaluation of the incident. However, we are aware that this does not solve the fundamental dilemma of a universal owner, who is heavily invested in a company like BP. The sheer size of the investment in the stock usually prohibits a sell-off because of the adverse market price impact to be expected and possible violations of fiduciary duty that might be attached to this. We see only two solutions to this dilemma: one answer certainly is the engagement with the company. This is certainly a loophole, but it is only a sound and credible solution if the impact that the engagement yields is measured, tracked, and evaluated systematically. And there needs to be clear criteria according to

¹⁴ Besides, this would not be sufficient to bring about a significant downgrade, as ratings are generally based on 100 or more individual factors. Any information incorporated in this way would simply be lost in the overall flood of information and would therefore be rendered almost completely ineffective.

which an engagement process is stopped and consequences (i.e. a divestment) are drawn. The second answer would be to establish an enhanced passive investment approach (see p. 21 and p. 102) that tracks a market index in terms of risk and return, but is selective with respect to some ESG criteria.

Hybrid approach – combination of rating and exclusion process

With the hybrid approach we propose here, we are addressing the critique that ESG ratings are lacking anticipatory power. Of course we are aware of the fact that a rating that covers all three pillars of the ESG approach in a more or less equally weighted fashion and reflects such a broad base of single indicators (in most cases more than 100), by construction can only have very limited power to predict single catastrophic events. Naturally one could strive to optimize the weights of the indicators used, such that the predictive power is maximized. This, however, would merely yield a somewhat academic/theoretical answer. In practice, we do not see a sensible way of finding tailor-made combinations of ESG indicators that are able to predict a long-list of possible black swan-type events. One simple reason, for example, is the lack of data. Hence, we would suggest another solution, which is more heuristic in nature, but can be implemented relatively easy.

Our suggestion is to use a hybrid system that combines a best-in-class rating approach with the use of exclusion criteria. Note that we do not talk about the classic exclusion criteria used in Responsible Investing such as arms, tobacco, alcohol, etc.. Rather it is about defining business activities that could entail high fat tail risks (low probability of occurrence, major impact) for companies, such as ‘deepwater drilling’ in the BP case, for example.¹⁵ These exclusion criteria exhibit much higher granularity than traditional criteria and are usually highly sector specific. One difficult question is whether a minimum share of sales should be applied for the business activities identified, as it is often the case with value-oriented exclusions. There is no catch-all answer to this, as the concept quite deliberately encompasses asymmetric risks as well; in other words, it also includes activities that are minor in terms of volume but may result in major liability-related losses.¹⁶

Passively managed funds – the ‘dark pool’ of RI

Quite commonly, large institutional investors use passive, index-linked investment strategies. The 2010 PRI survey, for example, found that approximately \$4trn of the total respondents’ assets had been passively managed, 17% of the total asset mix. Overall, signatories typically hold passive funds (based on their median value) worth \$1.9bn, 31% higher than the year before. Until recently, however, not much was known about how these funds are managed in order to comply with RI principles.¹⁷ This has now changed to some degree with the publication of the PRI’s note on passive management strategies (January 2011) that looks at eight case studies of its signatories (six asset owners, and two investment managers). The table below gives an overview over their approaches to the topic.

¹⁵ Underestimating risks with a very low probability of occurrence is a general problem for financial models, which are usually based on the assumption of a normal distribution.

¹⁶ It should be borne in mind, however, that a long list of asymmetric risks and corresponding exclusion of companies may have a significant impact on the portfolio’s return/tracking error profile.

¹⁷ The PRI survey, at least, reports that approximately 30% of the investment managers and 10% of the asset owners that participated have requested that some of their passive index tracking investments be benchmarked against indices that are constructed using ESG factors. This, however, allows no estimate of the passive assets under management that are subject to ESG integration.

By their nature, black swan risks cannot sensibly be reflected in ESG ratings

An additional heuristic element is needed to deal with this type of risk

17% of the PRI signatories’ portfolios are passively managed

PRI signatories & passive investing – an overview

	Total Assets under Management*	Assets under passive management (in % of total)*	Voting	Engagement	Enhanced passive	ESG index related**
Asset owners						
Environment Agency Active Pension Fund (EAPF)	\$2.40bn	39%	Yes	Yes	No	No
Fonds de réserve pour les retraites (FRR)	\$47.97bn	50%	Yes	Yes	Yes***	No
Health Employees Superannuation Trust Australia (HESTA)	\$13.24bn	12%	Yes	Yes	No	No
National Pensions Reserve Fund of Ireland	\$32.1bn	37%	Yes	Yes	No	No
VicSuper	\$6.32bn	74%	Yes	Yes	Yes	Yes
Lothian Pension Fund	\$4.74bn	11%	Yes	Yes	No	No
Investment managers						
Northern Trust Global Investments	\$627.2bn	42%	Yes	No	Yes****	Yes****
Legal & General Investment Management (LGIM)	\$508bn	66%	Yes*****	Yes*****	No	No

* as of 31.12.2009; ** i.e. indices like SAM's DJ Sustainability Index or the FTSE4Good Index; *** investment managers must agree to 'personalise' benchmark indices according to FRR's exclusion policy; **** customized ESG index mandates (approx. \$15bn); ***** clear corporate governance focus

Source UNPRI, February 2011

Voting and engagement

Consistency with the Principles is achieved via voting and engagement

The case studies predominantly focus on the signatories' approaches to voting and engagement. This is certainly due to the guidance given by the PRI's drafting group, saying that passive investing is consistent with the principles primarily through these two activities. While this makes perfect sense to us, in light of the consistency of passive investing with the 'universal ownership' concept (i.e. via the idea of maximum diversification), we also see a lot of challenges and open questions related to this.

One guiding principle should be to engage in separate accounts only

First of all, it is not clear to us how a consistent and effective approach should be implemented in the case of co-mingled funds. In our view, one guiding principle for asset owners should be to engage in separate accounts only.¹⁸ For example, only then can it be assured that the voting and engagement activities are fully in line with the asset owners' RI policies. It would also make it feasible for asset owners to delegate their voting and engagement rights to third party specialist service providers. A further benefit is that it would be possible to diversify across different investment managers. Finally, it would make it possible to agree on a useful reporting system, that not only covers the number of activities but also outcomes and impacts.

Lack of strategic approach to ESG issues

As mentioned in one of the case studies, a survey among UK fund managers sponsored by the Local Authority Pension Fund Forum (LAPFF) revealed 'the apparent lack of strategic approach to ESG, as well as a huge variation of coverage across global markets'. With regard to coverage, for example, our impression gained from anecdotal evidence is that if co-mingled funds are active in voting and engagement, which is certainly not the rule, then these activities do pre-dominantly focus on classical corporate governance related issues and not on environmental or social ones. An example for this is Legal & General Investment Management (LGIM) that even though it is a PRI signatory and contributed to case studies listed in the table above, does not seem to have incorporated a broader ESG perspective in its activities.

¹⁸ An alternative could be the collaboration of asset owners with a PRI background. In this case the challenge would be to find a consensus on many very specific issues regarding content as well as processes. The devil is in the detail.

'Enhanced passive' investment approaches	Going beyond the two active-ownership related practices Besides the two active-ownership related practices, there are another two approaches that need to be mentioned in the context of passively managed funds. Both have an asset selection component built-in, so that they maybe considered to be somewhere in between (or hybrid) active and passive management techniques. The first one of them is what VicSuper calls in its case study an 'enhanced passive investment' approach. The attribute 'enhanced' is widely used in the practice of portfolio management and describes the replication of the risk/return profile of market indices with a reduced set of single assets that are selected according to specific rules. Typical mainstream examples are value-, growth-, or dividend-yield tilts. And of course one could apply the same methodology using ESG criteria to select single stocks or bonds. The motto is to invest in the market, but to do it with enhanced ESG profile. Quite obviously, this approach, again, necessitates a separate account structure that allows customized management solutions. An example within the PRI case studies is Northern Trust Global Investments, which manages approximately \$15bn based on customized ESG index mandates.
'ESG-index linked' investments	The second approach that falls into this category is what we would call 'ESG-index linked' investments. And what we mean by this in the first place is the tracking of some of the well-established, broadly defined thematic indices like SAM's DJ Sustainability Index or the FTSE4Good index.¹⁹ They are not directly designed to minimize the tracking error vis-à-vis broad market indices, but de facto display very low active risks which is, for example, due to the use of sector-related 'best-in-class' selection and market cap weighting techniques.
Lack of ESG indices across other asset classes	No doubt, these indices have matured to date and feature a relatively broad global coverage of stocks and quite sophisticated selection methodologies. But there are also some challenges. One of them is the fact that the small cap segment is not sufficiently covered yet, which is a consequence of the lack of transparency and disclosure in this segment. Furthermore, investing in these indices ultimately means that one needs to fully accept the methodology of the index provider, and the fact that large parts of the actual evaluation process remain a black box. Hence, trust in the research quality and expertise of the index provider's service partner is a necessary pre-condition before engaging in such index-linked products. The most significant challenge for passive investments from an RI perspective is, however, that practically no ESG related indices exist that cover other asset classes. In particular this is highly relevant for commodity investments, which are typically index-linked (see p. 39 and the following).
Mysterious lack of significance of the RI topic in Germany	Possible catalysts for future growth – corporate pension money to the fore Of course a multitude of factors have contributed to the growth of the RI segment in the past and this will also be the case going forward. Looking at all these factors would certainly go much beyond the scope of this research note. Hence, we have picked just one factor to elaborate on in a little more detail – namely, the mysterious lack of significance of the RI topic in Germany as compared to France and the UK, for example.²⁰ We don't want to get bogged down in a deeper discussion of the reasons for

¹⁹ Other large global index providers like MSCI or Deutsche Börse are also pushing ahead to enter into this segment.

²⁰ The UN PRI are still of very little significance in Germany. The country does not feature at all in the international comparison published annually by the PRI. As at the end of July 2010, there were 778 signatories to the UN PRI, of which 423 are investment managers and 207 asset owners, in other words institutional investors (in particular pension funds). However, an almost embarrassingly low figure of four

this (regulatory framework, differences in investment culture, etc.) here. Rather than that, we anticipate that in future it will first and foremost be the major listed companies that devote much greater attention to ensuring that their capital (including pension assets) is invested in line with RI criteria.

In Germany the pension assets of large companies could become an important catalyst

According to a study by Rauser Towers Perrin (July 2009), the pension assets alone of DAX companies totalled around €125bn as at 31 December 2008 (2007: €150bn), with an average funding ratio of 65% (see the chart on p. 108 of the Appendix for information on the individual companies).²¹ The bond component in the pension assets of DAX companies was 61% (equities: 23%, real estate: 6%, other: 10%). We expect the funding ratio to continue to rise over the coming years (to 75% by 2015). On top of this come estimated new endowments of around €10bn per year, which would imply an injection of more than €75-80bn into the capital markets by 2015.

It would take a sea change in the way the companies behave for this potential to actually be unlocked, however. For example, RI criteria have so far played virtually no role in the awarding of mandates. This is also reflected by the fact that, relatively speaking, the significance of RI mandates is markedly lower in Germany than in other European countries. On our estimates there is unlikely to be more than €5bn in occupational pension assets that is invested in line with RI criteria. This would put the share of DAX companies' pension assets invested in the RI segment in the low-single-digit range. We believe this situation will change appreciably in the future, however.

Balance between operating business and own investments

The background to this is simply that DAX companies in particular have positioned themselves as global leaders on sustainability issues, and sustainability has now become a genuine fixture of corporate strategies. As they advance along the learning curve, many companies are increasingly becoming aware of a clear imbalance between the progress made in operating business in recent years and the question of how their own capital should be invested. It would be ill-advised for a group of companies that has a 'green' product range and builds its brand around issues such as combating climate change not to consider environmental factors in its own investments. For example, nowadays companies would undoubtedly be loath to be pilloried if they were looking to do business in the renewable energy sector, but at the same time their own pension fund has high exposure to BP.

A carefully structured sustainable corporate strategy includes the investment of capital

Such inconsistencies can turn into a real PR disaster. The only way to avoid this is to attune the company's investment policy requirements to the basic principles and strategies that guide the operating business. In a nutshell, the challenge is therefore quite simply to put your money where your mouth is. If this idea takes hold in the corporate world, and we are confident that it will, then over the next few years the FI segment will see strong growth in assets managed in line with RI criteria.²² Another factor that should boost growth is the increasingly widespread conviction that integrating ESG factors can make a positive contribution in terms of improving the risk/return profile – just as in the equities segment, as shown in the Mercer studies referred to above.

investment managers and three institutional investors came from Germany. By way of comparison, in France 43(!) investment managers alone had signed up by that date.

²¹ By way of comparison, as at the same date the MDAX companies had pension assets of €18bn (funding ratio of 59%).

²² In UKSIF's Sustainable Pension 2009 survey, 33% of pension funds with an explicit RI policy gave great significance to aligning it with the plan sponsor's (i.e. the company's) CR policy. In 2007, the figure was just 21%. In our view this shows that there is already a trend towards greater consistency between the two spheres. As far as Germany is concerned this may be a key argument for companies to open themselves up to this issue in the first place.

The 'Genius of the AND'

RI = Strategic Awareness + Having an Impact

Reconsidering the definition of Responsible Investing

Our ride through many of the currently debated 'hot issues' within the RI community has revealed that a point has been reached where it seems to be necessary to take a step back and re-think some of the basic questions. We believe, for example, that it is necessary to reconsider the definition of Responsible Investing, in order to give the term greater meaning and to frame it in such a way that its added value becomes immediately apparent.

In particular, much more clarity is needed with respect to the assumed target function of a Responsible Investor. We see two options:

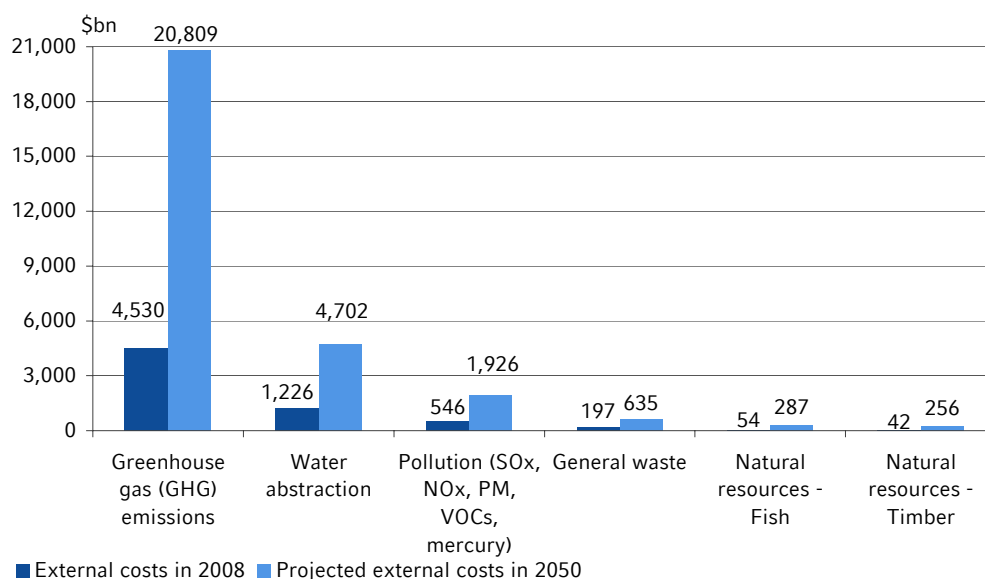
- Exclusively focusing on the economic 'universal owner' rationale or
- Introducing a double-bottom line target function.

Universal ownership and external costs

Externalities finally come back in the form of reduced investment returns

First, for a 'universal owner' we see the possibility of keeping the traditional one-dimensional target function of maximising financial utility. The link to ESG factors, extra-financial issues and sustainability topics is established here by the argument that the external costs that are produced by companies or projects in which one is invested finally come back in the form of (1) an increased systemic risk and (2) a reduced potential to generate investment returns (e.g. either directly, via reducing corporate cash flows due to increased taxes, insurance premiums or direct costs of natural disasters, or indirectly, via reducing the overall long-term growth potential of the economy). As very broadly diversified investors, 'universal owners' cannot escape from the long-term adverse financial effects of externalities, since, for example, an externality caused by one company in the portfolio may hit the profitability of another company in the portfolio.

Annual environmental costs for the global economy in 2008 and projections for 2050



Source Trucost, UNPRI, October 2010

Ultimately, externalities will have a significantly adverse effect on their portfolio values. From this one can conclude that for ‘universal owners’ it makes perfect economic sense to engage in companies or investment projects that help to reduce external costs, even if these investments would not be considered worthwhile based on traditional, short-term oriented/myopic evaluation metrics. To invest in these projects is in the best financial interest of the fund’s beneficiaries and is hence fully compatible with fiduciary duty.

Discounting of internalisation effects may leave investors with a zero impact on current portfolio values

We admit to having a great sympathy to this reasoning. We fear, however, that it is too academic and too abstract to have a practical meaning for investors. One challenge, for example, is that the efforts of policy makers to internalise external costs (e.g. via taxes) do not really seem to significantly bear fruit in the foreseeable future. The failure of policy makers to find effective, multilaterally coordinated mechanisms to put a price tag on CO₂ emissions (as manifested by the ‘results’ of the Copenhagen conference, for example) should be considered as a warning signal not to overestimate the future internalisation potential. This of course applies in particular to the many other issues that are likely to find less powerful support than climate-change mitigation. Another argument that is related to this and that speaks against trying to press Responsible Investing into a traditional investment framework that is guided by risk-adjusted, discounted cash flow thinking is that the internalisation effects are likely to materialise (i.e. have an impact on cash flows) so far way in the future that discounting them back to the present may leave us with an almost zero impact on current values. Last but not least, the methodologies to determine the external costs of many activities are not at all conclusive. In most cases the underlying evaluation models are very crude representations of reality and are subject to a multitude of partly questionable assumptions. The results generated by these models may be arbitrarily far away from the truth. Hence, a prerequisite for buying into the internalisation argument would be to develop better and more reliable/credible models anyway.

Introducing a double-bottom-line target function

Adding credibility, transparency, and clarity

In our view the more credible way to rationalise ESG integration is to follow the idea of ‘the Genius of the AND’ and to explicitly allow the adding-on of a non-financial dimension to the Responsible Investor’s target function. We would argue that the final results are not necessarily different from those that can be achieved with the ‘universal ownership’ concept in mind. With both approaches Responsible Investors are able to enhance long-term financial value without necessarily sacrificing (short-term) market rates of return. One possible technical interpretation of the double-bottom-line approach is that it simply transforms long-term intangible financial objectives into more tangible and operational short-term non-financial objectives.

The big advantage of the ‘Genius of the AND’ approach is that it can add credibility, transparency and clarity to investment policies and processes, and thereby reduce reputational risks for the investors themselves as well. Credibility is gained by acknowledging that the term ‘Responsible Investing’ implies much more than just being a means to an end (i.e. a higher financial return) for a limited group of beneficiaries only. If the ‘taking of externalities into account’ and the ‘target to avoid (or at least reduce) them’ is taken seriously, then – in practical terms – this implies (although maybe only implicitly) that the investor has a double-bottom line target function. This might be considered to be an ‘inconvenient truth’, since – no doubt – questions with respect to fiduciary duty are raised by this interpretation.

Both dimensions can be mutually supportive

Another inconvenient effect might be that a double bottom line concept raises the bar for traditional investors to accept the approach, which could potentially slow down the process of mainstreaming. We acknowledge that these ‘fears’ have some justification, but at the same time think that there is no alternative to injecting more clarity and rigour to the RI concept. It should simply be seen as the entrance card to the next step of the maturity process which the RI idea has to run through. And after all, we demand nothing else than the acceptance of empirical reality and of state-of-art social science and economics. In economics a paradigm shift has manifested itself over the past two to three decades. It is now generally accepted that behavioural factors such as emotions have a significant influence on decision-making processes and that utility functions in reality are not merely limited to financial well-being. Last but not least we will argue below that both dimensions, financial and non-financial, can even be seen to be mutually supportive (‘the Genius of the AND’) rather than contradictory.

(More than) the sum of two parts

Hence, we propose an interpretation of Responsible Investments that is the sum of two parts (and probably even more than that), a primarily financial value-driven component, which we would like to refer to as ‘Strategically Aware Investing’, picking up on a term that has been introduced by RI veteran Matthew Kiernan and a component that is driven by non-financial impact considerations.²³ We will explain in the following in more detail exactly what we mean by this.

An investment style that is analytical, long-term, and holistic.....

Strategically Aware Investing – having a systemic view of the world

We interpret Strategically Aware Investing (SAI) as an investment style which above all takes a ‘systemic’ view. This means an investment style which recognises the bigger picture; which understands long-term trends and systematically gives consideration to their implications across all asset classes. One which considers all relevant information, independent of its financial or non-financial nature and which develops an understanding of the companies’ intangible value drivers (integration and enhanced analytics). One which bears in mind the destructive and the creative force of innovations; which recognises the formation of investment and price bubbles in a timely fashion by being aware of their behavioural drivers and considers the effects of their subsequent bursts. An investment style that understands how social changes (e.g. demographics) or environmental issues such as climate change and social reactions to these may have an impact on the relative prices of assets. One that does not allow itself to be swayed by daily fluctuations on the stock exchanges. In short, we view it as an investment style that is analytical, long-term and holistic – or, to express it with Kiernan’s words, which is ‘strategically aware’.

Generating impact beyond financial returns

The central idea of Impact Investing, on the other hand, is ‘to generate positive social and environmental impacts in addition to financial returns’.²⁴ It is also an approach that tackles social and environmental challenges with greater efficiency as compared to

²³ Kiernan’s proposal, however, was mainly targeted at finding the right terminology to lower the barrier entries for mainstream investors. The central idea of Kiernan’s proposal is that the term ‘Strategically Aware Investments’ quite naturally and automatically leads one to assume that the investment motive is purely performance-oriented, i.e. that it is based exclusively on the return on investment and risk considerations of traditional/conventional investment styles and, precisely because of this, does not provoke any knee-jerk dissent. We do, however, have our doubts as to whether the term ‘SAI’ is eminently suited to achieving this. In particular we cannot imagine that the mainstream’s resistance can be crushed with a term which consigns all those who do not adhere to it to the logically complementary group of ‘Strategically Unaware Investments’. The defensive reactions would certainly not be any less severe if there were to be such ‘branding’.

²⁴ Many thoughts in our research note about Impact Investing have been inspired by the study ‘Solutions for Impact Investors: From Strategy to Implementation’ by Rockefeller Philanthropy Advisors (November, 2009). All quotes made in our text refer to this study.

traditional philanthropic investment approaches and hence can be considered as an ideal complement to the SAI concept in our view. What unifies the two components at their core is the fact that they both use non-financial information (in particular ESG information) to arrive at investment conclusions. However, there may of course be differences in the lists of criteria or indicators used and they may also receive different weights in the respective evaluation processes.

‘Impact Investing’ – lessons to learn

Tackling social and environmental challenges with greater efficiency

Impact Investing describes a relatively new investment discipline that has emerged in recent years in the US, primarily driven by foundations. The conviction that drives Impact Investing is that for good intentions to create real impact it is necessary that they are ‘supported by a well-considered investment strategy and a rigorous execution process.’ In 2009 the Global Impact Investing Network (GIIN) was formally established. Today the organisation’s Investors’ Council counts 33 members, including well known US foundations like the Calvert Foundation and the Rockefeller Foundation as the main drivers and catalysts of the movement, but also investment banks (J.P. Morgan, Deutsche, Morgan Stanley) and specialised asset managers (e.g. Generation) acting as their (service) partners.

Not a separate asset class

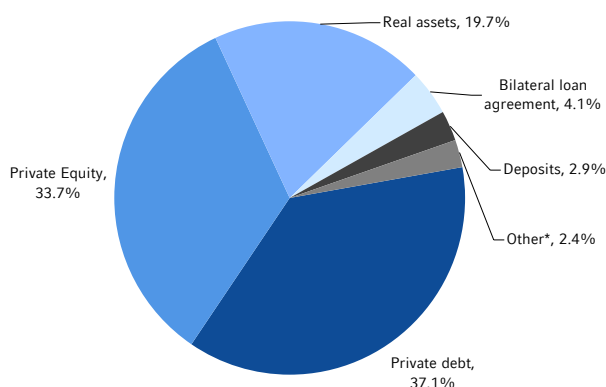
In our view, Impact Investing can be considered either as a part or segment of Responsible Investment or as a refined definition of what Responsible Investing should mean and bring about. Before going a little deeper into this discussion and delivering our own interpretation, it is necessary to elaborate a little on the efforts of some protagonists to define Impact Investing as a new, separate asset class.

Impact: ‘a meaningful change in economic, social, cultural, environmental and/or political conditions due to specific actions and behavioural changes by individuals, communities and/or society as a whole.’

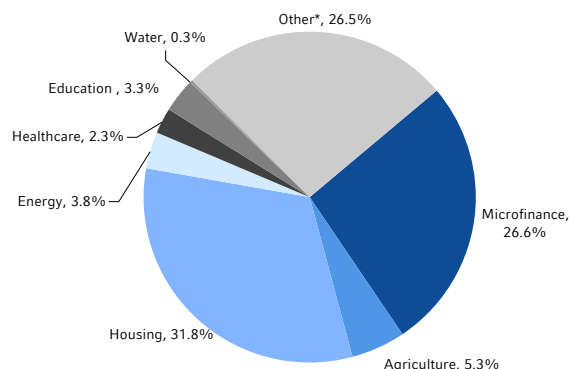
Source Rockefeller Philanthropy Advisors, 2009

Impact Investing

.... across type of investment/asset classes



... across impact areas



* ‘Other’ includes public equity and public debt (by type of investment) and community investing (by impact area).

Source GIIN, 2010

Impact Investing is practised with a clear thematic focus today

It is certainly true that Impact Investing as it is practised today has a clear thematic focus, and that is targeting the ‘bottom-of-the-pyramid’ part of populations, either in developing/emerging markets or – to a lesser extent – in developed markets. The themes covered include, for example, sustainable trade finance, low-income housing, clean energy access, clean drinking water, primary education and above all microfinance.

According to a survey study by the GINN, the total reported volume of Impact Investing of the 24 survey participants (mostly members of the GIIN Investor Council) amounted to round about \$2,500m. The distribution of these investments across asset classes and impact areas/sectors is shown in the two charts below.²⁵

Impact Investing is much too powerful as a concept to limit it to this end

It can be argued that investments in this area require (1) investment partners with specific structures that enable them to allocate capital efficiently in this area and that have people on board with a set of very specific skills, (2) specific metrics, benchmarks and ratings in order measure performance and risk, (3) an industry association (in this case the GIIN) that promotes the topic effectively. We acknowledge that all this is needed to create the notion of an asset class, and that some of the players named above have a clear commercial interest to push the topic in this direction. We believe, however, that the idea of Impact Investing is much too powerful to simply limit it to this end. We are convinced that the idea of Impact Investing will spill over into the discussions of the future of RI as whole and will finally have a major influence on how the approach and the industry will develop.

Specifics of the Impact Investing process

To optimise decision making and achieve the best possible results it is necessary to establish a disciplined and transparent process that includes well-defined steps beginning with the formulation of targeted impact areas and ending with the evaluation of the impact the investment has achieved. One of the key steps in this process is the mapping of the selected impact themes with the different asset classes available to the investor.²⁶

Developing 'theories of change' plays a pivotal role in our strategic asset allocation approach

Mapping of impact themes with asset classes

In order to be able to fulfil this task, it is necessary and important to develop assumptions about how a particular investment activity will (theoretically) translate into the desired social or environmental impacts. An example would be an equity investment in a listed or unlisted company with the establishment of a subsequent constructive engagement process that will cause the company to stop undesired activities or begin desired activities of importance. The question that needs to be answered here is whether the assumption of a change in behaviour is justified in the particular case. Quite obviously it is, for example, less likely that a large, publicly listed company with a diversified investor base changes its behaviour as a result of engagement relative to a small company in which the Impact Investor has a considerable stake. Another example concerns the still widely practised 'negative screening' approach. The Impact Investor needs to be aware of the fact that the impact one can generate with exclusion policies in general is indirect at best and almost impossible to measure systematically. Indirect, because there is no effect on the capital endowment of the company (the shares are just held by somebody else in the market) and the impact can only be generated via sending a negative signal to the market, which might make it more costly for the company to raise capital on primary markets in future. It is of course clear that aligned exclusion policies of big asset owners (e.g. all PRI signatories) can have a significant impact because of their significant market share. Nevertheless, our conclusion is that negative screening should certainly not be among the preferred 'theories of change' an Impact Investor should be looking at. This is

²⁵ A list of the members of the GIIN Investor Council is included in the table on p. 111 in the Appendix.

²⁶ The list of possible impact themes includes the usual suspects from the sustainable development agenda in its entire scope. One clear focus, however, are typical 'bottom-of-the-pyramid' topics, such as 'access to clean water', 'disease-specific prevention and mitigation' (e.g. Aids), or 'access to financial services' (i.e. microfinance).

also supported by the fact that the impact exclusions have on the capital costs of a company is almost impossible to isolate and then measure. The ‘developing of theories of change’ idea plays a pivotal role in our strategic asset allocation approach (see p. 99 and the following).

The ‘impact mapping matrix’ (IMM)

The final result of defining the targeted themes, screening the set of available investment opportunities, and developing the associated theories of change, should be what we would call an ‘impact mapping matrix’ (IMM, see table below). Each box of the matrix does not only represent a specific financial risk and return characteristic, but also varying degrees of non-financial return (=impact) and risk for the particular theme. Taking the topic of climate change (first row of the matrix) as an example, the trade-off between investing in public or private equity can be made visible very clearly. While engaging into clean-tech VC might yield a much more significant thematic impact, simply because of the purity and focus with which one can play an impact theme, this comes with the inherent additional financial risk associated with illiquid and/or early stage businesses.

Mapping impact themes with asset classes – the ‘impact mapping matrix’

Social, environmental or blended impact themes	Asset classes								
	Liquidity	Income & wealth preservation			Capital appreciation & wealth growth			Inflation protection	
	Cash / cash alternatives	Notes / other debt obligations	Bonds	Absolute return / low equity correlated	Public equity	Equity long / short	Private Equity	Real estate	Commodities, timber & other real assets
	Climate change	Green bank deposit		Tax-exempt green bonds CO ₂ trading	Positive & negative screening		Cleantech Venture Capital	Green REITS	
	Energy		Screened corporate bonds	Alternative energy project finance	Exchange traded funds (ETFs)	Renewable energy	Energy efficiency Venture Capital		Sustainable feedstocks
	Water		Corporate infrastructure bonds	Water treatment project finance	Unit investment trust, closed end funds	Water funds	Water technology Venture Capital		Water rights
	Community development	Community bank CDs	Foreclosure repair	Microfinance institutions debt	Shareholding proxy voting		Community development Venture Capital	Transportation-smart development funds	
	Social enterprises		Social enterprise credit		Micro-cap listed social companies		Small & medium enterprise	Conservation / ecotourism	
	Health & wellness			Structured public note			Consumer product Venture Capital	Organic farming	
	Sustainable development	Trade finance guarantee / deposit	Smart growth municipal bonds	Blended debt equity hybrid structures	Thematic screening			Ranch land, agriculture	Sustainable timber
	Education	Linked deposit / guarantee	Charter school bonds				Education Private Equity	University green building	

Source Rockefeller Foundation, 2010

The role of the IMM in strategic asset allocation and portfolio construction

The setting up of an IMM can be seen as a significant step towards or part of the strategic asset allocation (SAA) of the investor and hence we make use of it in our Multi Asset Responsible Investing Approach (MARIA) as well (see p. 90 and the following). The SAA is setting the benchmark and the guideline for all investment activities and reflects the long-term risk and return preferences as well as the non-financial values of the investor. The mapping can also be seen as a heuristic tool to take into account the different correlation structures within and across the financial and non-financial dimensions.

The distinction between outcome and impact

The final step – evaluating impact

First of all it is important to note the distinction between outcome and impact. For example, in the case of microfinance, the targeted outcome could be the general improvement of living conditions of poor people as reflected in social metrics covering education, nutrition, housing, and health. Impact, on the other hand, is defined by the entirety of investment outcomes (intended or unintended) net of what would have happened anyway (i.e. without the investment) or what would have been the next best alternative.²⁷

Obviously, the measurement and evaluation of impact is not an easy task. Social impact is difficult to isolate and attribute to a specific intervention, i.e. an Impact Investment. Due to the complexity of the task it is all the more clear that impact should be measured based on clear outcome metrics that are ideally comparable and across different social or environmental Impact Investments. The requirements here are not different from financial metrics/performance indicators in principle. On the financial side, clear standards for each asset class have emerged and the impact side needs to follow up in this respect going forward. The value of establishing standards on the impact side is also derived from the fact that evaluating social impact is subjective by nature and often driven by emotion (which makes it harder to agree on a standard, admittedly). Another challenge arising from the process of standardisation is that those impact themes tend to get overemphasized, for which it is relatively easy to generate comparable outcome metrics (availability bias).

Examples of impact measurement systems can be found in development finance

Some guidance for the designing of impact measurement models can be taken from development finance. The German DEG,²⁸ for example, is using a business project rating tool called GPR (went live in Spring 2002), which is an index point system that does include profitability considerations as well as an evaluation of (sustainable) development effects. The benchmarking process distinguishes between the industrial sector, the financial sector, and infrastructure projects. With respect to the industrial sector, for example, quantitative effects such as employment and income effects are evaluated as well as qualitative effects such as technology transfer, qualification and training, gender effects, improvement of infrastructure and compliance with social and environmental standards are assessed. One important benchmark used by the GPR system is the projects contribution to the achievement of the Millennium Development Goals (MDGs). For example, for the year 2010 DEG reported that 'plausible direct contributions to at least one of the eight MDGs have been made by 47% of the current portfolio (new project commitments in 2010: 64%).'²⁹

IRIS – developing a standard for impact reporting

There are certainly many examples of this type to be found at different types of institutions around the world. The diversity of available models is probably immense. The flip side of the coin is the general lack of standardisation and comparability, which is reflected by the fact that only a very small share of investments in this area is managed

²⁷ The question about the impact of microfinance is debated very controversially. Banerjee, Duflo, Glennerster, and Kinnan (2009), for example, conducted a randomized evaluation on the community-level impact of new branches of a microfinance bank and found 'no impact on health, education, or women's outcomes' 15–18 months after the advent of the branches. CGAP (Consultative Group to Assist the Poor), a microfinance think-tank supported by over 30 development agencies and private foundations, on the other hand points to 'the observed behaviour of hundreds of millions of clients who demonstrate how important microfinance is to them by voting with their feet'.

²⁸ The DEG is a member of the 'KfW Bankengruppe' and is one of the largest European development finance institutions for long-term project and company financing. For almost 50 years, DEG has been financing and structuring the investments of private companies in developing and transition countries. The DEG invests in profitable projects that contribute to sustainable development in all sectors of the economy.

²⁹ Another example is the Earth Dividend™ model of Earth Capital Partners (see p. 67).

with the help of a third-party system.³⁰ However, significant efforts are made within the Impact Investment community to inject transparency, credibility and comparability in the impact measurement process. Besides individual initiatives like the Calvert Foundation's Social Return on Investment (SROI) calculator,³¹ we consider the Impact Reporting and Investment Standards (IRIS) initiative of the Global Impact Investing Network (GIIN) to be particularly worthwhile mentioning here. It aims at delivering a defined common language by establishing uniform definitions of terms for social impact reporting (just as the International Financial Reporting Standards, IFRS, do for financial reporting) and to equip fund managers and direct investors with these standards to facilitate comparisons across different types of investments and across asset classes. All in all, however, the project is still at a very early phase and it is still much too early to assess how successful the initiative will finally be.

Smaller, entrepreneurial enterprises are put at a disadvantage

One big hurdle for the general acceptance of additional reporting requirements is of course that their implementation is likely to be resource-intensive and costly. This automatically puts smaller, entrepreneurial enterprises at a disadvantage. In the case of a Venture Capital (VC) investment, for example, one might argue that the additional reporting requirements may divert management capacities from other more important activities in a company's start-up phase. The well-understandable and fully justified call for third-party verification of the data delivered by the companies would increase additional reporting costs even further and it is not clear at all whether investors are ultimately willing to pay for this (in the form of a reduced financial return).

Impact Investing and its role in RI 2.1

Some conceptual ideas of Impact Investing are of a broader relevance

We do not look at Impact Investing in this detail because we believe that it is not an own asset class, which distinguishes us from many others. For us, the conceptual ideas within Impact Investing that are of a broader relevance for the RI discipline at large are more significant. First of all, there is the very fundamental idea that the RI approach/philosophy may only make deeper sense if the investment has a positive impact that goes beyond financial return and risk. This return to the ethical roots of RI, as it may be interpreted, would potentially also help to resolve some of the central contradictions the RI industry has produced so far. Secondly, the emergence of engagement as one of the central approaches to RI as well as the significance of thematic investing (in particular climate change related investments) have raised questions about the bottom-line impact these practices actually have against the overarching goal of sustainable development. Having a good intention is not sufficient here anymore and it will definitely be necessary to come up with a more rigorous approach to prove that the investment in question is indeed responsible and/or sustainable. One example is investments in the renewables sector, with companies that might have the right products/technologies in their portfolio from a 'fight against climate change' perspective, but at the same time do not behave and act in a responsible/sustainable manner when it comes to production processes or human resources management or corporate governance practices. In the past these kinds of contradictions have irritated many observers of the industry and have lead to a lot of cynicism and denial.

³⁰ According to a survey commissioned by the Global Impact Investing Network (GIIN) in 2010, 98% of respondents use an impact measurement system that is either developed by the asset owner (85%) or the investment manager (13%). Only 2%, on the other hand, use a third-party system.

³¹ The tool allows investors to better understand potential social return on investment based on data the Calvert Foundation has collected from numerous organizations in the field. For each sector, Calvert Foundation converts a potential Impact Investment amount into the corresponding housing units created or improved, micro-enterprises created, jobs created or small businesses created.

Thematic investing and the need to introduce rigorous impact assessments

In our view it is extremely necessary going forward to distinguish more clearly whether an investment in a sustainability-prone sector (e.g. renewables) is a purely opportunistic one or is also compatible with the general requirements of Responsible Investing. This needs to be reflected in the due diligence processes required across all asset classes. They need to be consistently augmented by an evaluation of environmental and social factors/or impacts. We distinguish between factors and impacts to signal that there are more passive (compliance-related) components on the one hand and more active components on the other. We would argue that a formal impact assessment is necessary, for example, when an investor considers investing in specific clean technologies and/or green infrastructure. In particular, it needs to be addressed what the external effects of an engagement may be (including the costs of market distortions caused by the investment). With respect to investments in traditional, exchange-traded commodities, for example, this kind of assessment has lead us to the conclusion to stay away from this seemingly so attractive and recently much debated asset class (see p. 39 for details). In this sense impact assessment will gain importance going forward across the entire RI spectrum and with it the requirement of making targeted impacts transparent.

Injecting more transparency into engagement processes

Another area of overlap is engagement. The target of engagement must be to have an impact on the behaviour of companies one is engaging with. It is not sufficient to say 'we are talking about these issues with the company's management', as it is so often heard at RI conferences and workshops. Investors will need to carefully explain what their engagement objectives are and to measure their performance and/or impact against these targets. It will not be acceptable anymore that engagement is not as rigorously managed as the investment process itself and that the outcome is not measured and benchmarked in the same manner as financial returns and risks are. So the task the engagement industry faces is no different from the one the Impact Investing industry is faced with. There are clear parallels and similarities.

Suggesting a shift to higher impact asset classes – Impact Investing implies investing in multiple asset classes

Different focuses of the main protagonists

As argued above, we are no friends of the idea that Impact Investing can be considered as a new asset class. Rather we see it as a part of the RI paradigm.³² However, it is true that Responsible Investing and Impact Investing have gone somehow separate ways of late, due to the different focuses of the main protagonists pushing the two topics forward. The differences have already been named above already to some degree. But to make it clear again here, the main point of divergence is seen in the fact that RI traditionally has mainly been focussing on the avoidance of investments in companies that generate negative environmental and social effects, while Impact Investing, in contrast, focuses on capitalizing projects and enterprises that create positive social and environmental effects. And in support of this, it is argued, that RI typically invests in listed equity and debt, creating the incentive for listed companies to engage in 'good corporate citizenship/green-washing activities' presented in glossy brochures called CR reports, while Impact Investing is primarily done in primary Private Equity (PE) or debt markets, where new capital is provided to create social or environmental benefit. The impact an investor has via the ownership of shares and the possibility to sell these shares to other market participants is in most cases much more limited (even being a significant shareholder and effectively engaging with the company) than via the infusion of new capital to a less mature, normally much smaller business.

³² Note that we don't consider RI as an asset class as well. We would prefer to call it a philosophy, an approach or a world view.

Substantiating diversification moves with impact considerations

Overall it is our firm belief that the RI debate as a whole needs to develop along the lines that have been defined by the outlined Impact Investing approach. The diversification of the large universal owners that also drive the PRI towards alternative asset classes needs to be augmented and substantiated with Impact considerations in addition to the usually brought forward financial risk- and return arguments. And as our discussion of PE (see p. 49) shows, for example, the measurement of impact plays an important role already at some large PE managers (e.g. KKR or Carlyle) that have started to embrace the idea of taking ESG into account. Besides this 'voting with their feet' effect, it is simply a logical step forward in the evolution of the RI idea, giving answers to some of the challenging questions that have been raised by cases like BP and others. For 'universal owners' this may mean that they need to think about their strategic asset allocation and may wish to raise the share of higher impact asset classes such as PE in their portfolios and finance this with a decrease in lower impact asset classes such as listed equity.³³ For the listed equity part, the challenge will be to have an impact via engagement with company management and proxy voting. For this purpose it is necessary to define clear impact objectives and to set up a rigorous impact assessment process.

Improved financial performance by taking ESG into account AND having a positive social and environmental impact

'The Genius of the AND'

In his famous book 'Built to Last', Jim Collins emphasizes the importance of companies avoiding what he called the 'Tyranny of the OR' and encouraged them to harness the 'Genius of the AND' when making business decisions.³⁴ The same applies to investment decision making and the question whether one should take extra-financial information into account or not. Purists still argue that everything the investor needs is already incorporated in balance sheets and in the financial metrics of a firm and their knowledge is sufficient to optimise portfolios with respect to risk and return. So either one optimises financial performance OR one is doing something else, pursuing a different objective. We argue instead that the integration of the 'Strategically Aware Investing' with the 'Impact Investing' concepts is able to deliver both, an optimized financial performance (in terms of risk AND return) AND a positive impact in social and environmental terms. It's not about doing one OR the other, it's about doing both at the same time.

The hurdle of fiduciary duty

This statement of course automatically raises the eyebrows of investors, asking whether this means that one needs to sacrifice return in order to generate positive social impact. This question is of course of pivotal importance when it comes to fiduciary duty.³⁵ The answer is that all depends on the way how the target function is ultimately formulated. In the following we assume a so-called 'financial first investor', i.e. an investor seeking to maximise risk-adjusted financial returns subject to the auxiliary condition of generating positive social and/or environmental impact.³⁶

³³ Note as well that Mercer's recent pitch for a multi asset approach to managing climate change risk points in the same direction (see p. 106 for details).

³⁴ Jim Collins: 'If there's one lesson from our finding to keep in mind above all others, it is this: Clock build your company so that it preserves a passionately held core ideology and simultaneously stimulates progress in everything but that ideology. Preserve the core and stimulate progress. A truly visionary company embraces both ends of a continuum: continuity and change, conservatism and progressiveness, stability and revolution, predictability and chaos, heritage and renewal, fundamentals and craziness. And, and, and.'

³⁵ Probably related to fiduciary duty considerations is the fact that none of the big US asset owners (CalPERS, CalSTRS, etc.) is among the 33 members of the GIIN. However, we have figured out that at least one prominent name is on both signatory lists: TIAA-CREF serves 3.6m clients participating in more than 27,000 retirement plans at 15,000 institutions, and has \$414bn in combined assets under management (as of December 31, 2009). As of December 2008, TIAA-CREF's dedicated Impact Investing portfolio included nearly \$734m in commitments.

³⁶ On the other hand, so-called 'impact first investors' seek to optimize social or environmental returns with a financial floor. This group uses social/environmental good as a primary objective and may accept a

Responsible Investing 2.1 – a look at alternative asset classes

Over the past decade many large institutional investors/asset owners have strengthened their efforts to diversify their portfolios away from the traditional highly liquid equity and bond market investments to alternative asset classes, such as commodities, real estate, infrastructure, and hedge funds. The shift has been motivated by the search for new return opportunities and more favourable risk profiles. The challenge that these investors now face is that they pressed ahead with their alternative investments without having a convincing top-down RI concept established yet. With respect to commodities, for example, we believe that there are strong arguments not to be invested from an impact perspective and that there are no convincing analytical tools available to implement a sensible investment strategy. Nevertheless, this has been one of the focal areas within these investors' alternative investment activities over the last couple of years.

Investments in alternative asset classes

Key takeaways

- Pension funds are the single most important investor group in alternative asset classes and thus can exert a significant influence on how external managers set up their investment processes.
- As early as 2009, \$811bn invested in alternative asset classes were subject to ESG integration by PRI signatories. We expect this number to be well above the \$1tn mark by the end of 2011.
- The PRI progress report shows that there is strong momentum in some alternative asset classes (e.g. infrastructure, where the share of assets subject to ESG integration jumped from 59% in 2008 to 89% in 2009). However, not much is known about the quality of integration (beyond anecdotal evidence). Two additional observations: Private Equity (PE) is about to catch up with listed equity in terms of ESG integration; No information is given about ESG integration in commodities.
- Our general impression is that a convincing and consistent RI approach to alternative asset classes has not been implemented yet.

Pension funds are the single most important investor group

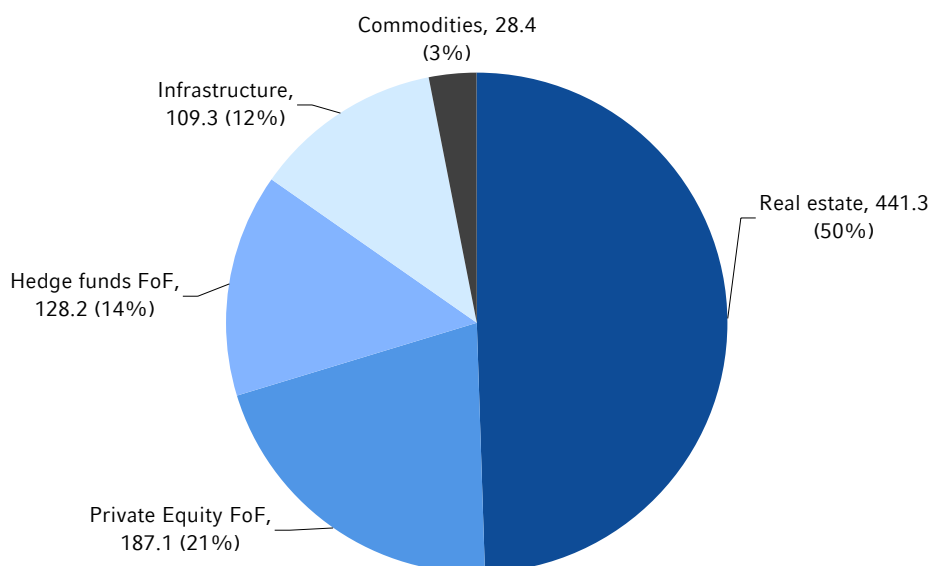
The amount of money pension funds and/or pension fund trustees have invested in alternative asset classes is enormous as a quite recent study by Towers Watson (June 2010) shows. According to it, as of 31.12.2009 \$894bn had been invested by the trustees' externally mandated investment partners³⁷ in real estate, PE, infrastructure, commodities

range of returns that is lower than the market-rate of return. Of the two concepts, only the FFI approach appears to be compatible with the current understanding of fiduciary duty as it is defined, for example, in the Employment Retirement Income Security Act (ERISA). It is the legal framework within which trustees of pension funds as well as other fiduciaries (e.g. foundations, endowments etc.) operate. ERISA requires institutional investors not to tolerate below market rate, risk-adjusted financial returns on their investments. In recent years, however, ERISA has allowed that fiduciaries must also consider how various 'extra-financial' factors may impact future financial performance. And it is under this provision that many state pension funds have been taking the lead on the issue of climate change.

³⁷ Usually, large institutional investors like the pension funds that are among the drivers of the PRI do not engage in direct investments because of the high volumes they need to invest and the prohibitively high

and hedge funds. The survey was based on the responses of 149 investment managers worldwide, running 224 funds in total.

Pension assets under management – alternative asset classes (in \$bn)*



* altogether \$894bn; FoF: Funds of Funds

Source Towers Watson, 2010

Market share of about 53%

With this volume invested, pension funds are the single most important investors in the alternative asset classes segment. Based on the numbers provided by Towers Watson, they contribute more than 50% to the total investments (\$1,694bn) in this area globally.³⁸ The significance of pension funds as a group for the alternative asset class segment implies that the potential impact these investors have on investment processes and practices is immense. Admittedly, not all pension funds buy into the idea of RI and are PRI signatories. But the number is steadily rising and many major representatives of the industry belong to the main drivers of the PRI, as we have stressed before.

9.4% of PRI signatories' portfolios is invested in alternative asset classes

ESG integration in alternative-asset-class investments – a look at PRI signatories

The UN PRI progress report for the year 2010 gives a flavour about the extent to which asset owners and investment managers that have a RI background are invested in alternative asset classes and to what extent ESG integration has already been achieved by PRI signatories across the different asset classes. The results of the survey show that \$1,254bn had been invested by PRI signatories (asset owners and investment managers) into alternative asset classes by 31.12.2009, making up 9.4% of their total investment volume.³⁹ This number does not include commodities, however.⁴⁰

transaction costs a highly fragmented portfolio would generate. Instead they usually invest through others and in funds operated by others. Legally this is predominantly done via investment partnerships, which the asset owners enter into as limited partners and the investment managers as general partners.

³⁸ The significance of this investor group is also reflected in the membership structure of the International Limited Partners Association (ILPA), as the chart on p. 113 in the Appendix shows.

³⁹ This only includes the internally managed assets to avoid double-counting and it also only includes the actively managed assets because it is assumed that passively managed assets are not subject to integration, which is disputable, in our view (see 'enhanced passive' approach, p. 102 and the following). That said, the PRI survey reports that approximately 30% of investment managers and 10% of asset owners have requested that some of their passive index tracking investments be benchmarked against indices that are constructed using ESG factors.

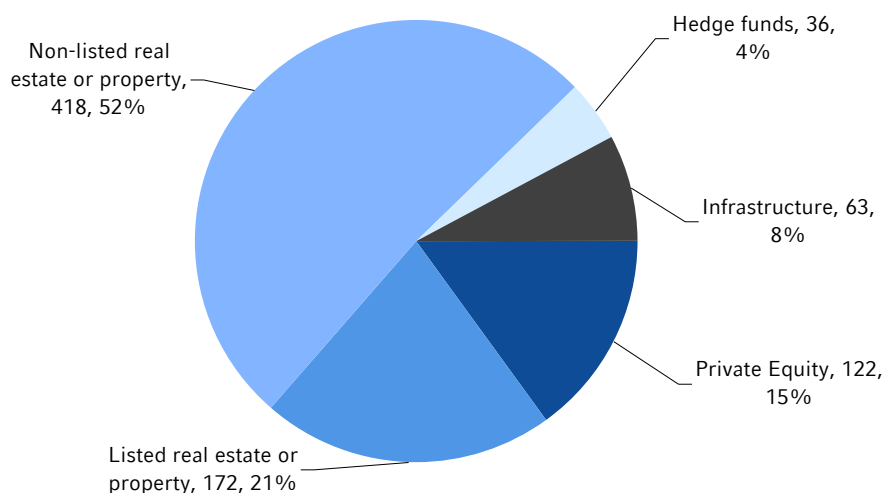
⁴⁰ For commodities there is no information whatsoever about the signatories' ESG integration efforts given. We will come back to this lack of transparency later on.

We found this level of engagement in alternative asset classes confirmed when looking at the asset allocations of CalPERS (see table on p. 99) or USS, the Universities Superannuation Scheme from the UK. USS' Alternative Assets programme began in 2007 with a mandate to allocate 20% of the fund's assets into alternatives. At the end of 2010 we found the information on the fund's homepage that the current allocation to alternatives now represents around 10% of the total fund or approximately £2.2 billion in invested capital. More than 50% of this amount was invested in PE, around 25% in infrastructure and 5% in commodities.

\$811bn (64.7%) are subject to ESG integration already

According to the PRI survey, out of the total amount of \$1,254bn invested by PRI signatories in alternative asset classes, \$811bn (64.7%) had already been subject to ESG integration as of 31.12.2009. This is already a quite considerable number, and quite interestingly the share of assets with ESG integration is higher than it is in the case of conventional assets (49.4%). However, we still see an enormous growth potential not only because the 'integration gap' will continue to close due to the signatories' PRI commitment, but also because of a continued shift in asset allocations towards alternative asset classes. We expect the share of assets with ESG integration by PRI signatories to be well above the \$1tn mark by the end of 2011.

Investments in alternative asset classes by PRI signatories subject to ESG integration in \$bn (as of 31.12.2009)*



* The total investment s.t. ESG integration amounted to \$811bn.

Source UN PRI, 2010

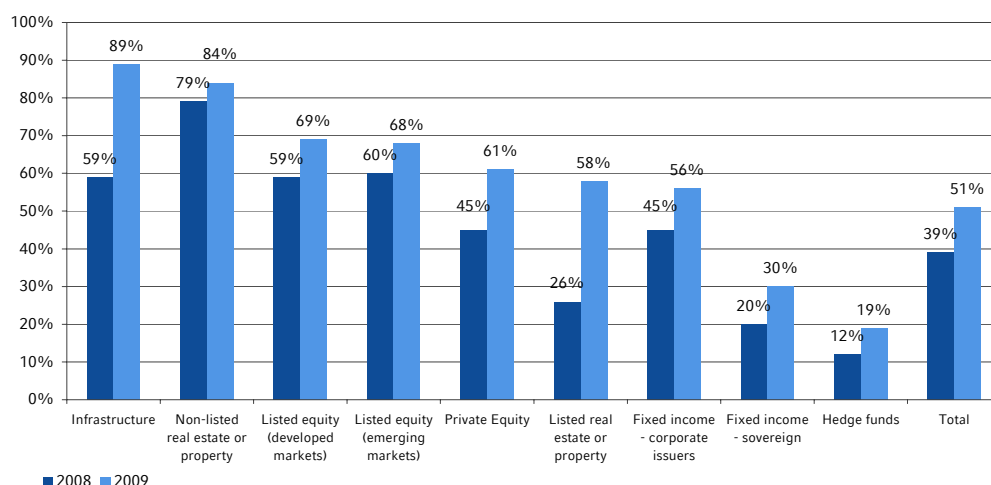
Remarkably strong integration momentum in some alternative asset classes

The following chart looks at ESG integration levels across all the asset classes which the PRI survey looked at. A couple of interesting observations can be made. First of all, the integration level had been rising across all asset classes without exception from 2008 to 2009. Secondly, there is a remarkably strong momentum in some asset classes, and the most significant increase can be found in alternative asset classes. In particular, ESG integration had increased in listed real estate from 26% to 58% and in infrastructure from 59% to 89%.⁴¹ In both cases a strong market-oriented, economic motivation behind the signatories' engagement (driven by the energy efficiency/clean-tech topic)

⁴¹ These figures have also been put into relation to overall market values. The 51% number for overall integration among PRI members translates into 5.6% of the total market value in 2009 (increase from 3.6% in 2008). Please keep in mind that this number is likely to be a very conservative estimate, since not all market participants that integrate ESG are PRI signatories (on the other hand it is probably also true that not all PRI signatories truly integrate ESG in a material manner).

can be assumed. To what degree the high numbers reflect a broader-based integration of ESG issues, remains an open question.

Internally active assets subject to integration by PRI signatories – as a share of total internally active assets



Source UN PRI, 2010

Main challenge: a consistent approach across all asset classes still needs to be developed

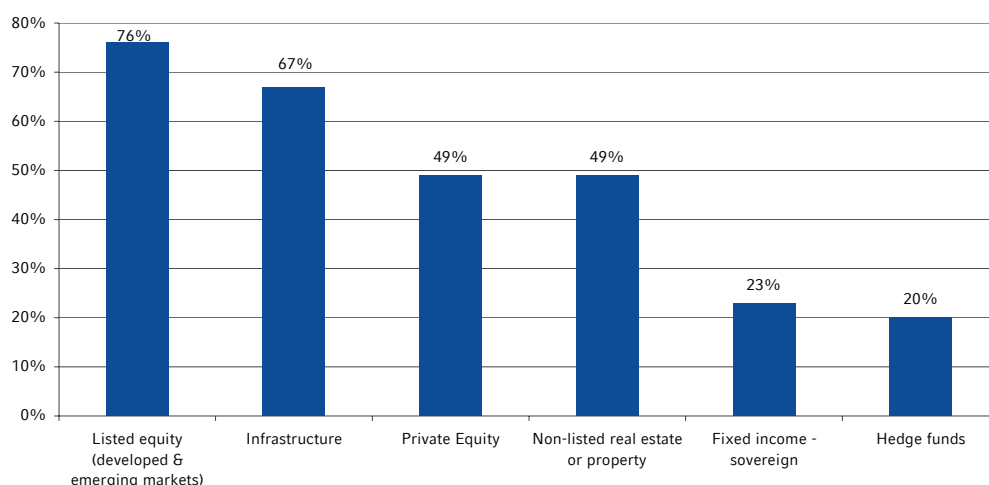
With respect to the other alternative asset classes (besides infrastructure, real estate), we would like to stress three observations: first of all, PE seems to be on the way to catching up with listed equity. Secondly, the percentage number for hedge funds is the lowest across the entire spectrum, which is also what we would have expected. We believe that investing in hedge funds can be, but need not necessarily be part of a multi asset RI approach (see p. 77 and the following). The third observation we would like to point to is the fact that there is no information given by the PRI with respect to the commodities asset class. Indeed, we were not able to find meaningful information about how the main players like CalPERS deal with commodities from an ESG integration perspective. Our call is clear in this respect – we consider commodities as a no-go area for Responsible Investors (see the in-depth discussion starting on p. 39). In our view the main challenge for investors/asset owners will be to implement consistent RI processes across all asset classes. It is our impression that this is not yet the case even when looking at the market leaders.

Active ownership and alternative asset classes

Lack of transparency

An important part of ESG integration for asset owners is 'active ownership'. Little is known about the degree to which active ownership is practised in alternative asset classes. The PRI survey gives a little bit of insight here, as the chart below shows.

Signatories holding ESG active ownership policies, broken down across asset classes



Source UN PRI, 2010

Impact potential not fully exploited yet by a long way

The survey results show that the number of signatories that have an active ownership policy (on ESG issues) for infrastructure, non-listed real estate, PE or hedge funds and fixed income sovereign is much lower than for listed equities.⁴² Active ownership is a listed/large cap equity topic in the first place. That the number for PE is so much lower as compared to listed equity has surprised us a little bit, since PE appears to be the dedicated asset class for active ownership (see our arguments on p. 51 and the following). Here, a general partner that agrees with its limited partners to implement ESG active ownership activities can have significant influence and generate impact (e.g. via board seats, direct management access).⁴³ The same applies to real estate. Here, investment managers often also have direct access and/or control of the management of the property and thus have the opportunity and the leverage to pro-actively address ESG issues.

Infrastructure is basically the same story, but the percentage number is significantly higher here as compared to real estate and PE. One reason might be that the environmental and social impact of infrastructure projects can be very significant, which has led to respective due diligence processes in this area (see, for example, the so-called Equator Principles in project financing). I.e. an ESG risk assessment is 'mainstream' here anyway.

Hedge fund managers could be considered as good partners (at least potentially)

The picture is different for sovereign fixed income investments and hedge funds. PRI signatories have started to develop policies in these areas and have shown some activity here. As we will argue later on (see p. 84 and the following), hedge funds could be seen as good partners for asset owners when it comes to implementing ESG engagement measures. They have proven to be very effective and sophisticated in this area, although the topics have admittedly been different ones. We guess, however, that the upside should be limited here, because of basic structural mismatches.

⁴² Survey participants had also been asked about their implementation of active ownership measures. The numbers were higher across the board, sometimes significantly, which means that some have taken action without having a policy. We focus here on policies, since the numbers in this area are less exposed to positively biased answers.

⁴³ General partner (GP): The manager of a limited partnership. The GP has full responsibility and complete discretion for investing the capital. The GP also bears personal liability for any lawsuits that arise from the investment's activities, but is often broadly indemnified by the limited partners (LPs).

Sovereigns: the fundamental
problem of lacking legitimacy

Another problematic area is sovereigns. Although PRI signatories report on some examples of engagement, applying the concept of active ownership appears to be basically flawed in our view – not least because of legitimacy considerations in democratic societies.

Responsible Investing in commodities will remain not much more than a theory – with good reason...

Responsible Investing in alternative asset classes

Commodities

The focus here is on commodities in a narrower sense, i.e. on exchange-traded contracts with homogeneous, substitutable goods (natural resources such as oil, gas, CO₂, or various metals and agricultural products) as underlyings.⁴⁴ The requirement of standardisation and substitutability directly leads to one of two core challenges we have identified from an RI perspective, and that is the lack of ability to differentiate between different origins. This deprives Responsible Investors of any asset selection activities. Unlike other alternative asset classes, practically no sensible approach currently exists to ESG integration in direct commodities investing.

Key takeaways

- The speculative investment activities of financial investors can lead to significant swings away from fundamental equilibrium prices. Price distortions of this kind can lead to significant and unacceptable external effects. In particular this is the case when it comes to agricultural commodities (food price impact) and to investment products with physical underlying (e.g. exchange traded commodities).
- There is a high risk that regulatory bodies in the US and in Europe will significantly limit the engagement of financial investors in this area anyway.
- The argument that speculative investors can help to stabilise prices and hence could even generate positive externalities is not valid in our view for two reasons: (1) it does not take into account that acting as an arbitrageur implies a very short-term horizon which fundamentally contradicts the long-term character of the RI philosophy; (2) even if the volatility of market prices could be lowered by the engagement of 'responsible arbitrageurs' this does not imply at all that the emergence of price bubbles could be avoided.
- The second driver behind our recommendation not to invest in commodities is the lack of a sound and sensible ESG investment approach for this asset class. A closer look reveals that life cycle analysis, which could be seen as a natural candidate, is not able to deliver a practicable methodological basis for doing the job. And even if it were possible to find a sensible assessment tool, we do not see any link to financial returns and risks, nor do we think that non-financial impact could be generated by the investment activity (lack of a 'theory of change').
- All in all our recommendation is thus to play commodity-related themes only indirectly via investments in conventional asset classes (i.e. equity or bonds). We believe that there is an urgent need for the RI community to position itself with respect to this topic. We are aware that this might have some inconvenient implications.

Limited resources, sustainability, and Responsible Investing

We start with commodities since this is probably the most hotly and controversially debated alternative asset class in which 'universal owners' and PRI signatories have a stake. According to the 2010 PRI survey the average weight of commodities within PRI signatories' portfolios amount to 1% (see chart on p. 100), which roughly translates into \$180bn. At CalPERS, which we took as a kind of benchmark example for this research note, the target portfolio weight is 1.5% with a range from 0.5 to 3% (see table on p. 112 in the Appendix). At CalPERS, commodities investments are a part of the inflation-

⁴⁴ Contracts on financial market indices and currencies are not considered.

linked asset class programme. To hedge against inflation risk is one of the main motives for the big institutional, long-term investors that drive the PRI. Diversification and the anticipated very positive long-term return perspectives are the others. And since the latter is predominantly driven by a story that is based on resource scarcity, commodities investments seem to be a virtually predestined playground for Responsible Investors.

Benchmarking commodity investments

In the following we take a brief look at the spectrum of commodities we are talking about here. It is actually well reflected by the compositions of the most frequently used benchmark indices. The following table gives an overview and it shows that weights do deviate from each other to some degree, but give more or less the same picture with regard to the relative significance of the different groups. The most striking divergence can be noted between the CMCI and the S&P GSCI, with the weight of energy, for example, differing by the factor of two. The CMCI, for example, contains 39 individual components (see table in the Appendix).

Compositions of commodity indices

Sector	CMCI ¹	S&P GSCI ²	RICI ³	DBLCI ⁴	MLCX ⁵	CSCB ⁶	JPM CI ⁷	DJ UBS CI ⁸
Energy	35%	69%	44%	55%	60%	56%	47%	33%
Industrial metals	27%	9%	14%	13%	13%	13%	14%	19%
Precious metals	5%	3%	7%	10%	4%	6%	10%	12%
Agriculture	30%	15%	32%	23%	18%	20%	25%	30%
Livestock	4%	4%	3%	0%	6%	5%	4%	6%

¹ UBS Bloomberg CMCI Constant Maturity Commodity Index; ² S&P GSCI Commodity Index; ³ Rogers Commodity Index;

⁴ Deutsche Bank Liquid Commodity Index; ⁵ MLCX refers to Merrill Lynch Commodity eXtra; ⁶ CSCB refers to Credit Suisse Commodity Benchmark Index; ⁷ JP Morgan Commodity Curve Index; ⁸ Dow Jones-UBS Commodity Index

Source UBS, August 2010

Environmental commodities

What is missing in these indices are the so-called 'environmental commodities', in particular allocated CO₂ emission rights under the umbrella of the EU-ETS and the Certified Emission Reductions (CERs) that are generated by projects that fulfil the requirements of the flexible mechanisms of the Kyoto Protocol (CDM and JI).⁴⁵ Although derivative markets do exist for these commodities, these are not sufficiently liquid to be accessible for large institutional investors. This is all the more true for the voluntary markets that have emerged in the US, including the SO₂-trading system that had been established under the so-called 'Acid Rain Program'.

External costs of commodity investments

Adverse environmental and social impacts of commodity investments

At the core of our argument is the assumption that the additional demand of financial/speculative investors leads to market distortions and biased price signals which in turn can have significant adverse environmental and social impacts. Hence, we follow more or less the arguments of the FAO and UNCTAD in this respect and support the efforts and governmental initiatives in the US, in Europe and at the G20 level to regulate more strictly the agricultural commodity markets.

For a commodity market to be allocationally efficient, i.e. causing a minimum of external effects, it is necessary that prices reflect the underlying fundamental physical supply and demand for the good traded. With 'fundamental physical demand' we mean the effective demand originating from the real economy, i.e. from final consumers or from producers

⁴⁵ We talk about these also in the context of investments in clean energy infrastructure projects as a means to enhance project returns (see p. 68).

that need the commodity as an input factor or from intermediaries that are necessary to bring fundamental supply and demand together in a cost-efficient manner.⁴⁶

We do not share the view that the 'typical' Responsible Investor could act as an arbitrageur to stabilise prices

For us it is clear that in this set-up there is no role for institutional investors. In particular, they are not needed as market makers, since commodities markets are sufficiently liquid anyway. We do not share the argument that speculative investors can play a positive role by lowering the volatility of market prices. The argument assumes that speculative investors act as arbitrageurs that exploit short-term price difference and thereby have a stabilizing effect. While theoretically correct, it can hardly be imagined how this should fit the underlying general investment approach of long-term institutional investors like pension funds. There is a fundamental difference between investing and trading/market making. Furthermore, the reality of the markets over the last one or two decades or so has shown that despite the presence of sophisticated arbitrageurs, markets had experienced multiple cases of price bubbles that emerged due to speculative investments. And this is exactly what we are currently observing in commodities markets, despite the fact that the fundamental reasons that are put forward to explain the significant rise of many commodity prices are basically valid. The point, however, is that these factors alone cannot explain the extent to which prices have risen of late. And the fundamental reasons are often delivered with hindsight to justify what is currently happening on the markets. The 'peak oil' story that has become popular over the last couple of years is an example of that.

'Wagging the dog': only a small part of today's trading volume is likely to be driven by fundamental hedging demand

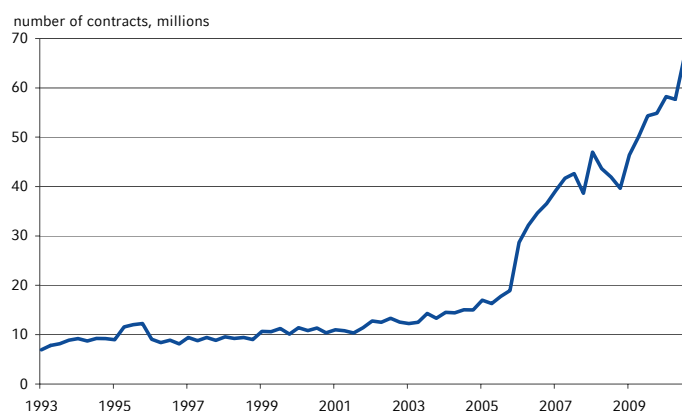
'Wagging the dog' we would call what is happening on the derivative markets for commodities which derives its 'right to exist' (in an economic sense) primarily from the idea to provide hedging opportunities to both the consumers and the producers of commodities. Today's reality is, however, that the share of trading volume that is likely to be driven by fundamental hedging demand has shrunk significantly over the last couple of years.⁴⁷ For example, the data of the 'Bank for International Settlements' (BIS) show, that the volume of future and options contracts on commodity markets has quintupled from 2002 to 2010, which can be explained by the fact that financial investors have increased their engagement in commodity markets after the burst of the 'dot-com' bubble on the equity market.⁴⁸ One anecdotal example of the impact financial/speculative investors can have on commodity markets and prices is given by an incident on the cacao market: In July 2010 the hedge fund Armajaro purchased a volume of 240,100 metric tons of cocoa beans, which corresponds to round about 7% of the total yearly production of this commodity worldwide. At London's commodity exchange Liffe only 270,000 tons were kept ready for immediate delivery at that time. The cocoa price rose to its highest level since 1977 after this deal.

⁴⁶ Even purely speculative investments on derivative markets may have an impact on physical demand: (1) via the additional physical inventory requirements of the commodities exchanges; (2) via changing the expectations and the behaviour of commercial market participants (e.g. by postponing production or by stockpiling commodities).

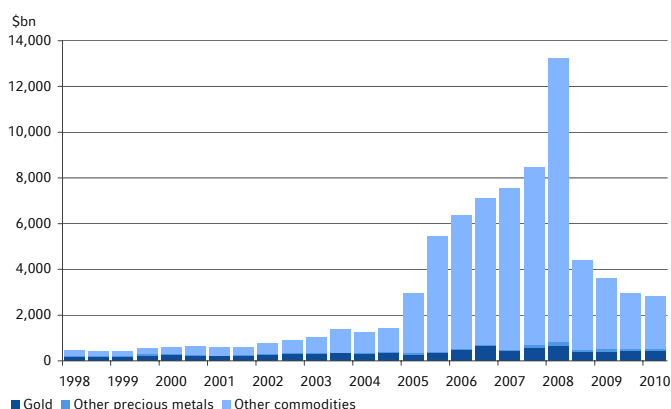
⁴⁷ This is also reflected by the fact that today only about 2% of the traded volume on commodity futures markets finally leads to the physical delivery of the commodity (according to the FAO, the Food and Agriculture Organization of the United Nations).

⁴⁸ A range of studies has explored the extent to which financial investment has affected recent commodity price developments (e.g. UNCTAD, 'Speculative influences on commodity futures prices 2006-2008', March 2010). There appears to be an emerging consensus, at least among policymakers, that financial investors have affected commodity price developments to an extent that warrants a tightening of supervision and regulation of commodity futures exchanges (see Gensler, 2009).

Futures and options contracts outstanding on commodity exchanges Mar 1993 – Dec 2010



Notional amount of OTC commodity derivatives

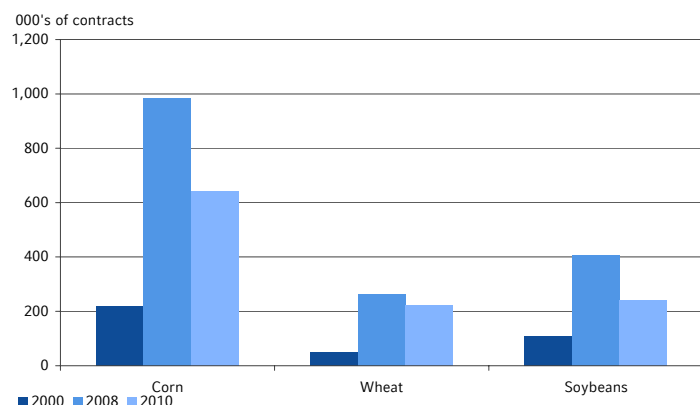


Source BIS Quarterly Review, December 2010

The role of speculative investors and the increase in commodity prices

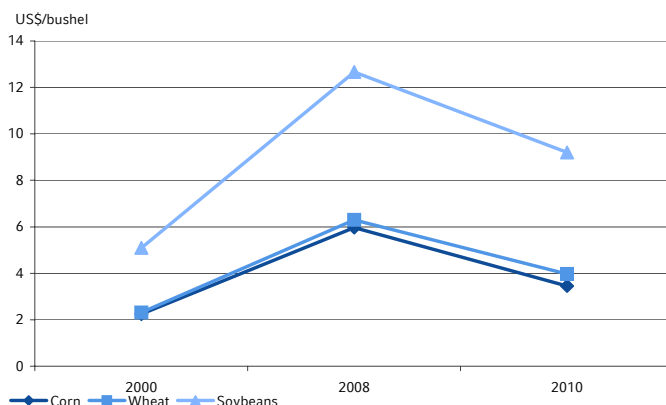
The following chart shows how the so-called long positions of 'non-commercial' traders⁴⁹ have developed at the CBOT and how this parallels with the price development on the same market. At the top of the commodity price bubble in 2008 they made up 50% of the entire open interest.

CBOT: long positions of non-commercial traders*



* in 000's of contracts (each of which comprises 5,000 bushel)

CBOT: contract prices in \$/bushel



Source FAO, June 2010

External effects: focus is on agricultural commodities

It is of course not just pure coincidence that we picked agricultural commodities as an example. While the potential effects of financial investors on commodity market price developments are basically the same, the external effects/costs that are caused by their investment activities impact on prices differ to a great extent. Obviously, a speculative price increase for precious metals can be assumed to be less problematic than a similar price increase for agricultural commodities that leads to corresponding food price increases with potentially strongly adverse effects on the bottom of the pyramid populations in developing and emerging countries. As an example, the so-called 'tortilla-crisis' in Mexico, which can be traced back to the hype around bio-fuels and the resulting increase of corn prices, shall be mentioned here.⁵⁰

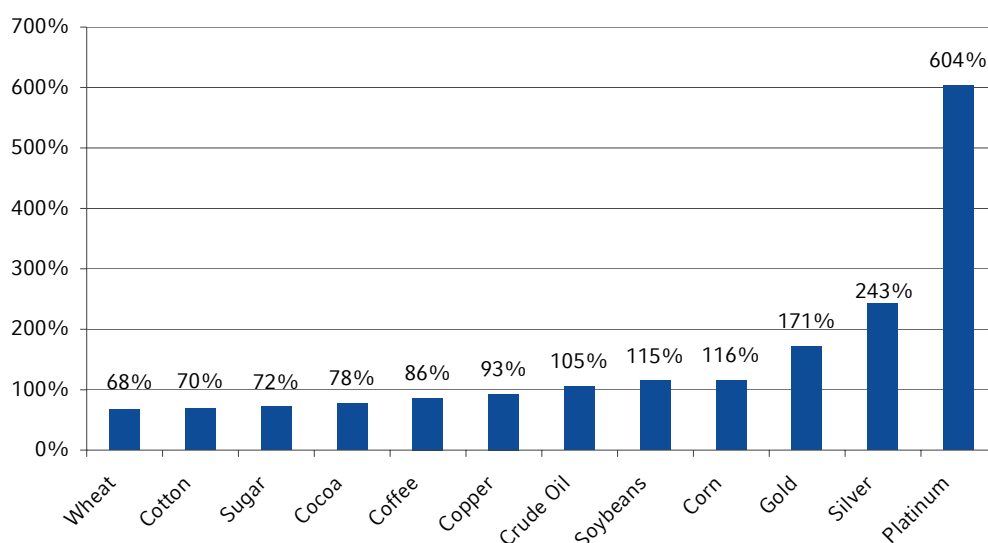
⁴⁹ Non-commercial traders do not own the underlying asset or its financial equivalent; they hold only positions in futures (or options) contracts. By contrast, commercial traders are those who use futures or option contracts in a given commodity for hedging purposes, as defined by the US Commodity Futures Trading Commission (CFTC). Commercial traders hold positions in both the underlying commodity and in the futures (or options) contracts on that commodity.

⁵⁰ This link, admittedly, is contested by a study of the Washington based research institute IFPRI (International Food and Policy Research Institute), for example. The note holds a combination of other

Impact may vary from commodity to commodity

The degree to which speculative forces drive commodity prices may vary significantly from commodity to commodity. One indicator of the potential impact of financial investors is the ratio of positions held by non-commercial traders relative to those held by commercial traders. The current spectrum starts at 68% for CBOT Wheat Futures and ends at 604% for NYMEX Platinum Futures. This, however, is only a snapshot and the relative weights are subject to change based on the stories financial investors focus on going forward.

Commodity futures long positions – non-commercial trading volume as a multiple of commercial trading volume (as of 22 February 2011, in %)



Source CFTC, March 2011

The fuelling of price bubbles in order to generate positive external effects can never be a sustainable strategy

Another issue that one needs to think about is of course that price bubbles may not only cause negative external effects like the ones described above. It may also be argued that the oil-price bubble in 2007/2008, for example, generated a positive external effect by supporting the transformation from a carbon-based economy into an economy that rests on renewable energy sources. We believe that this argument is basically flawed, since it is hard to imagine how a more sustainable economy can be reached by making use of unsustainable market mechanisms. The adverse external effects the inevitable burst of a price bubble may have need to be taken into account as well. And this may change the entire equation. Hence, for 'Impact Investors' actively supporting market distortions cannot be a sound strategy.

Increasing negative impact due to engagement in physical underlyings

The impact of financial investors and therefore also the level of external costs caused by their investments has been compounded/reinforced by their increasing engagement in the trading of physical commodities. We do not talk about the investments by the asset owners/PRI signatories that are the focus of this research note. At least for the time being, they focus on derivative markets and passive investments, i.e. investments that track a benchmark index. CalPERS, for example, uses the S&P GSCI Total Return Index as the benchmark for its commodity investments. Investments in physical commodities are not allowed, according to the fund's investment policy. Rather, the spotlight is on the large investment banks that increasingly take positions in physical commodities, which is likely

factors (e.g. trade barriers, weak US dollar, and larger seed acreages etc.) responsible for the crisis. But this result is certainly also highly debatable.

related to the trend to back up the so-called exchange traded commodities products (ETCs) they issue with physical underlyings.⁵¹

Distinction between different sub-groups necessary

In conclusion, many investment options within the commodities segment need to be excluded from the shopping lists of Responsible Investors based on the above external cost considerations only. In particular, agricultural commodities should be screened out altogether. For industrial metals and energy-related commodities the case is not similarly strong, but in some cases still significant. The least problematic group from this perspective seems to be the precious metals.

The story about rising populations and scarce resources is not sufficient to invest in commodities from an RI perspective

Lack of a sound ESG investment logic and/or integration methodology

Going beyond the question of the potentially negative non-financial impact their investments might have, as we have already discussed above, Responsible Investors need to ask themselves what a sensible and sound investment approach would look like for this asset class. It is certainly not sufficient in our view to just tell the same old macro story about rising populations and scarce resources. This gives only the background but delivers no reason why Responsible Investors should invest in this topic and how they should do so in a convincing manner. In particular, we can see no meaningful interpretation of what it means to integrate ESG factors in investment decision-making processes in the case of commodities. One fundamental dilemma, for example, is that bad news about the production of a commodity, e.g. the explosion of an oil drilling platform or warlike conflicts close to production sites or transport routes, lead to concerns about possible supply shortages and accordingly to rising prices of the commodity. Do Responsible Investors want to systematically benefit from this kind of negative news flow?

'Peak everything': peak oil, peak metals..... – resource scarcity could be one dimension of the assessment process

Another open question is how to integrate sustainability considerations into investment decision making technically. For example, one could come across the idea of combining two evaluation dimensions (see chart on the next page): the first one would be resource availability. Obviously, the fundamental issue here is that the use of natural resources that are not abundant (relative to projected fundamental demand) is not sustainable by definition. Strictly speaking this implies that only renewable resources (in particular agricultural commodities) would pass this acid test without question (but might of course fail in other respects). The second one would be a classical ESG assessment/rating.

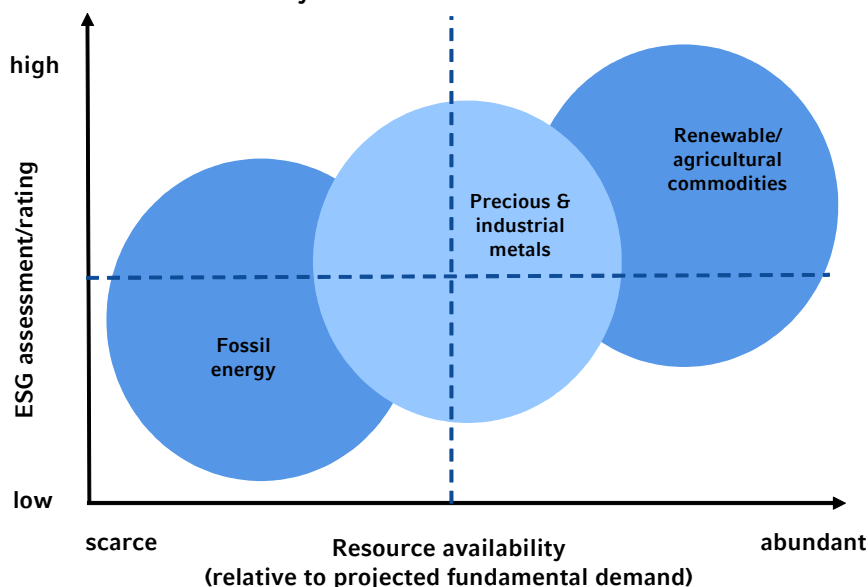
A pre-requisite for being able to perform this, however, would be to be able to differentiate between different commodities and to invest only in those ones that exhibit the relatively lowest social and environmental footprints.⁵² This approach would resemble the 'Best-in-Class' philosophy that prevails in large cap equity investments to a

⁵¹ In contrast to commodity-related exchange traded funds (ETFs), ETCs invest in single commodities only, allowing investors to engage in more specific commodity ideas and/or to allocate their own weights to individual commodities within an asset allocation context.

⁵² Admittedly, one opportunity to differentiate between commodities based on their origin or source is to invest in commodities contracts that are offered on a regional basis. For example, the CBOT offers a 'South American Soy Beans' contract or the NYMEX offers a 'Gulf Coast Gasoline' contract. The granularity of the distinctions that are possible based on this is much too low, however. Going forward the biggest progress potential with regard to Responsible Investing in commodities probably would be the creation of many more sub-categories listed at commodities exchanges (e.g. fair trade coffee or cotton or FSC certified timber). Large institutional investors could play an important role and support this idea with their lobbying activities. The limiting factor to increasing granularity is of course the securing of a sufficiently liquid market. Another regulatory move in the 'right' direction would be if the exchanges were to include environmental and social certification requirements in their listing/contract specifications. The expected increasing demand of the global players in food production for sustainably sourced commodities together with trading activity of Responsible Investors could help to establish liquid markets for this type of contract.

large degree. The list of ESG factors to be considered is long, as the table on the following page suggests, which we have generated based on a recent study by OnValues ('Responsible Investment in Commodities', January 2011) that was carried out in cooperation with the PRI and The Global Compact.

Two-dimensional sustainability assessment scheme for commodities



Source WestLB Research

Applying LCA methodology as a basis for investment decisions is doomed to failure

Looking at the list of topics involved, one quickly gets the impression that their assessment probably is a very challenging and complex task. Applying simple rules of thumb such as 'prefer aluminium to other metals since it can be used for lightweight construction' (see also the example on the following page) or 'invest in sugar or corn because of their role in alternative fuel production' is not doing the job. Such rules are strongly prone to perception and judgemental biases known from Behavioural Finance (see p. 93) and would very likely result in fundamentally flawed decisions and may even lead to unintended negative impacts of the type discussed above.

The (only) analytical tool that is able to perform this task is the life cycle assessment (LCA) methodology – at least in theory. It principally enables the user to capture the environmental and social impacts of each single commodity from 'cradle-to-grave'. Trying to apply LCAs to commodities, however, is a very challenging task and is finally doomed to failure when it comes to delivering the basis for a sound investment process. The main reason for this is the strong sensitivity of the results of a LCA with respect to the assumptions that need to be made in order to make it work.

Key ESG issues related to commodities

Commodity class	Energy		Industrial metals		Precious metals		Agricultural commodities		
Commodity	Crude Oil and derivatives	Natural gas	Aluminium	Copper	Gold	Platinum and Palladium	Wheat	Corn	Soybeans and derivatives
Environmental issues									
GHG emissions	x		x	x	x	x			
Emissions to air (CO ₂ , NO _x , SO _x , VOCs)	x	x							
Water / soil contamination	x	x		x	x	x			
Agriculture chemicals emissions							x	x	x
Critical incidents (oilspill / gas leakage)	x	x							
Production from oil sands	x								
Site / mine waste management	x	x	x	x	x	x			
Drilling in permafrost areas		x							
Issues related to artisanal/small-scale mining			x	x	x	x			
High energy intensity			x	x					
Water use							x	x	x
Biodiversity impacts	x	x	x	x	x	x	x	x	x
Issues related to intensive production, Deforestation (incl. GHG emissions)							x	x	x
Risks related to GMO use							x	x	x
Social issues									
Human rights issues	x	x	x	x	x	x	x	x	x
Labour rights issues (incl. forced labour)				x	x	x	x	x	x
Lack of skilled employees	x	x							
Occupational health & safety	x	x	x	x	x	x	x	x	x
Supply chain issues	x	x	x	x	x	x			
Issues related to conflict areas	x	x	x	x	x	x			
Corruption and bribery	x	x	x	x	x	x			
Impacts on local communities / indigenous people	x	x	x	x	x	x			
Mine closure impacts			x	x	x	x			
Impacts of intensive land use on communities / indigenous people							x	x	x
Impact of high/volatile prices on food security							x	x	x
Mitigating factors									
High recycling and reusability rates			x	x	x	x			
Contribution to energy efficiency			x	x					
Main employer in developing countries							x	x	x
Can drive development / avoid migration							x	x	x

Source WestLB Research (based on a study by OnValues, 2011)

Results generated may be far away from reality

LCAs are models, and models – as a famous financial economist once said – are ‘per definition false’, because they necessarily abstract from reality and hence are based on simplifying assumptions. The consequence is that the quality of a model can only be evaluated by confronting it with empirical data. This litmus test, however, is not available for LCAs. To make them work, strongly simplifying assumptions have to be set up with respect to transport and production processes (e.g. including the mix of energy sources), the use of basic materials in end products, the intensity with which these end products are used, the length of their use period, and the way one deals with them at the end of their lifecycles. Hence, different LCAs for the same product/commodity often lead to significantly different results, as the well-known ‘aluminium vs. steel example’ shows.⁵³ The dilemma for the investor is that there is no sensible way to distinguish between the different models, since it is practically impossible to say which one is generating results that are closer to reality.

It is also not clear at all how the results of an LCA in different categories should be weighted against each other. The table below, for example, shows the results of a cradle-to-gate evaluation of different metals using the four widely used indicators GWP (global

⁵³ See Geyer (2007), ‘The impact of material choice in vehicle design on life cycle greenhouse gas emissions – The case of HSS and AHSS versus Aluminium for BIW applications (2007)’.

warming potential), GER (gross energy requirement), AP (acidification potential), and SWB (solid waste burden).

Environmental impacts for cradle-to-gate metal production

Metal	Process	GER (MJ/kg)	GWP (kg CO ₂ e/kg)	AP (kg SO ₂ e/kg)	SWB (kg/kg)
Nickel	Flash furnace smelting and Sherritt-Gordon refining	114	11.4	0.130	65
	Pressure acid leaching and SX/EW	194	16.1	-	351
Copper	Smelting/converting and electro-refining	33	3.3	0.040	64
	Heap leaching and SX/EW	64	6.2	-	125
Lead	Lead blast furnace	20	2.1	0.022	14.8
	Imperial smelting process	32	3.2	0.035	15.9
Zinc	Electrolytic process	48	4.6	0.055	29.3
	Imperial smelting process	36	3.3	0.036	15.4
Aluminium	Bayer refining, Hall-Heroult smelting	211	22.4	0.131	4.5
Titanium	Becher and Kroll processes	361	35.7	0.230	16.9
Steel	Integrated route (BF and BOF)	23	2.3	0.020	2.4
Stainless steel	Electric furnace and Argon-Oxygen decarburisation	75	6.8	0.051	6.4

Source Norgate (2006)

Complexity becomes prohibitively high

In order to aggregate the results in these four categories, the use of subjective value judgements is unavoidable, which adds to the overall impression of arbitrariness and to charges that LCAs are 'unscientific'. Furthermore, only a full LCA (cradle-to-grave) would really make sense when it comes to the assessment of commodities. However, even if this would be possible, which we don't think is the case due to the arguments above, the complexity of this task and the time and effort required to invest in it appears prohibitively high. The much discussed LCA-register would certainly be of help here, but would of course not solve the fundamental problems that we highlighted. Last but not least, LCAs are usually limited to environmental factors. Social factors are normally completely lacking.

Lack of a sound 'theory of change' and missing link to financial returns and risks

For the reasons outlined above, it is hard to imagine that a sensible analytical approach could be established as a basis of an investment process for commodities. However, let's assume that a process could be established against all odds. What is still completely missing is a sound 'theory of change'. In other words, it is impossible to explain what is gained when going long in a commodity for which the LCA has delivered the 'best result' and going short in another commodity for which the LCA has delivered the worst result. If the expected result would be that the relative price for the 'good commodity' would be driven up, then how would one argue against the claim that it sets an incentive to replace the commodity with another one. Another challenge is to be able to explain how the result of the LCA should be related to the expected financial return for the investor. Theoretically, one could say that over the very long run all external costs are going to be internalised with the help of regulatory mechanisms. This, in turn, should favour all those commodities that produce low external costs anyway. In practical terms, however, this story appears to be more like a 'castle in the air' rather than a wholehearted expectation. The idea of generating 'alpha' by integrating ESG factors into investment decision-making seems to be more far-fetched here than in any other asset class that we are looking at.

'Commodity investments' in stocks and bonds

Our recommendation is to invest in commodity-related themes via equities and bonds

The fact that we are not friends of direct investments in commodities does not mean that we generally dismiss commodities as an investment topic for Responsible Investors. We would, however, strongly argue that the best way to approach this is via investing into companies (equities or bonds) that are exposed to the commodity sector. The advantages/disadvantages are obvious since often they are simply the mirror image of the disadvantages/advantages of direct investments. Although one of the main arguments to invest in commodities is diluted to some degree, and that is the diversification/

Entire spectrum of active ownership options is available to investors

decoupling from the equity market argument, the advantages from an RI perspective clearly dominate from our point of view.

First of all, by investing in companies the argument of enhancing the analysis by incorporating ESG factors is fully relevant (as it is in any other sector). Secondly, by investing in companies one is able to distinguish commodities with respect to their origin/source. Looking at the mining sector, for example, one is much better able to make sensible assessment of the specific conditions (environmental and social) under which the raw materials in question are extracted. And related to this it makes much more sense to relate the assessment of these processes to the financial success of the company than trying to do the same for a direct investment in commodities. Finally, well established processes and methodologies to select securities based on ESG factors are ready for application, and the entire spectrum of active ownership options (engagement and voting) is available to investors.

Our conclusion, therefore, is clear: we have set the weight of commodities considered as an asset class to zero within our strategic asset allocation, but allow investments in public or private equity and bonds based on generally accepted RI methodologies. The disadvantage of this is of course that investors are giving up additional diversification opportunities (historically commodities displayed a negative correlation with traditional asset classes) and also may forgo opportunities to hedge against inflation (historically, commodities have outperformed traditional asset classes during periods of high inflation).

Urgent need for Responsible Investors to position themselves

Finally, we would like to point out that our assessment of the matter may be an inconvenient one for many large institutional investors, since it would significantly limit the scope of their investment activities. On the other hand, we have not found any satisfactory answers delivered by RI protagonists so far to the questions and challenges that are raised in the context of commodity investments. A striking observation we have made when screening the RI landscape is that almost no reference to RI or ESG criteria can be found in the leading asset owners' investment policy documents. Consistent with this, commodities is the only asset class for which the yearly PRI survey gives no percentage value to the degree to which signatories have already integrated ESG factors and RI criteria into their investment processes (see chart on p. 36). For us, this is a clear signal that if PRI signatories do not want to put their credibility and reputation at risk, they urgently need to position themselves unambiguously with respect to this topic.⁵⁴

⁵⁴ A warning signal to all asset owners and PRI signatories might be seen in what has happened to CalSTRS (the California State Teacher's Retirement System). In spring 2010 the fund announced an ambitious commodity investment programme with a planned volume of \$2.5bn. Just half a year later CalSTRS abstained from implementing the programme cutting the volume to just \$150m. Although not explicitly confirmed by CalSTRS, one of the main reasons for its retreat was the significant critique from NGOs in the US (e.g. Maryknoll) pointing to increasing food prices in the developing world.

Private Equity

Private Equity (PE) as an asset class comprises different kinds of investments in unlisted companies. It ranges from VC investments in start-ups and the provision of development/expansion capital for established private companies, to buy-outs of listed companies. PE is basically a buy-to-sell model (either via a direct sales transaction or a public listing). PE usually implies having a controlling interest in a company either during a start-up, an expansion, or a turnaround phase. From an Impact Investing perspective, PE offers the advantage of actively supporting the creation of enterprises with a positive environmental and/or social bottom line.

Key takeaways

- PE & RI – definitely a fashionable topic: By the end of 2010 the number of PRI signatories with an exclusive or significant focus on PE increased to 84 from just two in May 2008.
- End of 2009, \$122bn of investments in PE were subject to ESG integration by PRI signatories. We expect this number to increase to above \$200bn by the end of 2011 (due to inflows of capital, new signatories, and a higher share of assets that are subject to integration). This would imply a share in the overall PE market of around 6.5%.
- The quality of integration, however, is not at all clear. The transparency is low. Furthermore, the motivation of some PE managers to engage in RI might be very opportunistic in nature. Our overall impression is that the industry is still in a very early phase of integrating ESG aspects in its investment processes in a consistent and meaningful manner.
- In our view, there are many positive aspects of PE that clearly speak in favour of an engagement in this area. First of all, empirical tests do not reveal that the buy-to-sell model automatically implies shorter time-horizons as compared to investing in public equity. Secondly, the impact that investors can achieve with PE investments potentially is much more direct, leveraged and effective than it is with public equity.
- With regard to the type of PE investments that have a link to the RI perspective, we distinguish between three categories (1) product-related, (2) process-related, and (3) impact-related. The PE industry's focus is clearly on category number one (in particular due to cleantech investments). Process-related activities are gaining in significance, however, due to the engagement of large PE managers like KKR.
- Engagement is certainly playing the most significant role in PE, besides the theme-based choice of industries such as cleantech, while the general integration of ESG factors in valuation models as a basis for investment decisions is, as far as we see, not a widely used methodology.

On the top of the RI agenda – trends and institutional drivers

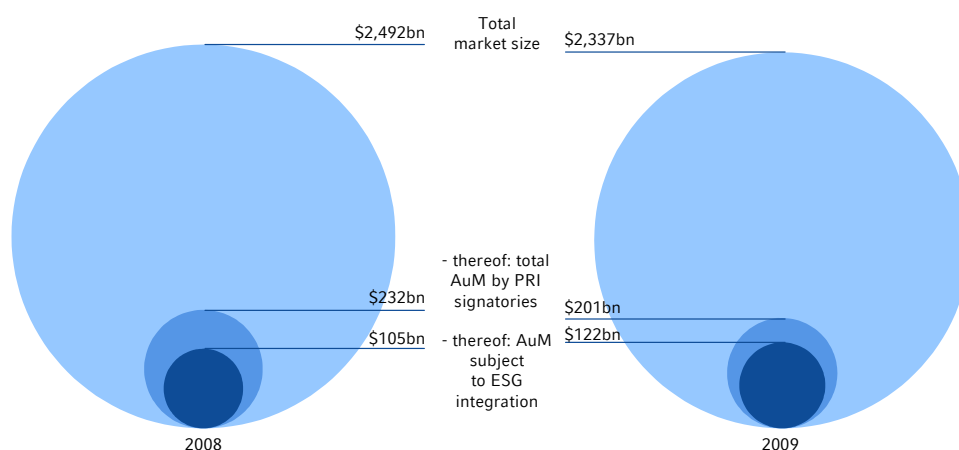
Number of PRI signatories with a significant PE focus increased to 84 by the end of 2010

PE and ESG is likely to be one of the most hotly debated topics within the RI arena in 2011 and beyond, in our view. The topic has been elevated to the top of the agenda over the last one to two years, mainly driven by the large institutional asset owners and PE managers responding to their demands. The Private Equity Council (in the US) estimates that pension funds, endowments and foundations account for around 70% of all capital invested with the top 100 PE firms since 2005.⁵⁵ By the end of 2010 the number of PRI signatories with an exclusive or significant focus on PE increased to 84 (see table on p. 115 in the Appendix), from just two in May 2008, when the first formal talks about Responsible Investing in PE started under the UN PRI umbrella.

\$122bn was subject to ESG integration by the end of 2009

According to the PRI's 2010 progress report, \$201bn was invested in PE by PRI signatories at the end of 2009. Similar to other alternative classes, the low correlation with conventional investments and the expectation of a premium return are the drivers behind their engagement. Of the \$201bn, a considerable share of \$122bn was subject to ESG integration (60.7%), which is close to listed equity (68.7%) already and much higher than for the hedge fund category (19.1%). The following chart summarises the market situation based on the numbers taken from the PRI survey.⁵⁶

Private Equity investments by PRI signatories*



* internally and actively managed assets only

Source UN PRI, 2010

PE managers will increasingly need to be able to demonstrate ESG management capabilities

Comparing this with the total PE market size, which amounted to an estimated \$2,337bn, PRI signatories made up 8.6% of the total market and 5.2% of the total market was subject to ESG integration by PRI signatories. The 5.2% is an estimate of the lower bound only, as not all investors that have integrated ESG into their PE engagement are necessarily signatories of the PRI. The upper bound, in our view, is certainly not higher than 8% (\$187bn). On the PRI signatory level, admittedly the numbers are already quite impressive. However, there is still growth potential, with about \$80bn not subject yet to

⁵⁵ Looking back about a year there had been a lot of concerns in the PE industry that the consequences of the financial crisis could be drying up their traditional investor base, including the pension funds on which we focus due to the special role they play in driving the ESG topic. For example, a survey study by Deloitte (2009) showed that 55% of the venture capitalists asked expected public pension funds' willingness to invest in the Venture Capital asset class to decrease over the period from 2010-12 (see chart on p. 116 in the Appendix). We assume, however, that attitudes have changed significantly since then and the signs now point to growth again. This is also supported by some preliminary statistics provided by the Cleantech Group for the first half of 2010, for example.

⁵⁶ It is important to note here that the numbers reflect only internally managed assets (to avoid double counting, as asset owners as well as asset managers participated).

ESG integration. We expect this gap to be closed comparatively quickly over the years to come and the share of PE as a whole to increase in the signatories' portfolios. Against this background, general partners will increasingly need to be able to demonstrate ESG management capabilities or face competitive disadvantage.

Consequences of the financial crisis

Besides the PRI commitment of many prime customers of the PE industry, we expect other factors to support this trend. First, because of the financial crisis asset owners (against the background of fiduciary duty) increasingly want to understand how general partners make investment decisions and how they manage their portfolios in general. As ESG analysis can be seen as a way to get a grip on long-term risks (often off-balance sheet risks), this in itself should help to push integration forward. Another factor that helps to introduce RI thinking and ESG analysis in PE is the increased risk of stricter regulation. Demonstrating due consideration of ESG issues and responsibility in making investment decisions can be seen as an opportunistic approach to lowering this risk. Some might also call this a 'greenwashing' approach.

Pouring some water into the wine

After we have stressed the many advances of the past and the bright prospects for the future, we also need to pour some water into the wine by saying that it is clearly not yet the case that the market segment is well developed in terms of ESG integration. There is still much to do and the industry is still in a very early phase of integrating ESG aspects in its investment processes in a consistent and meaningful manner. At least that is our impression from looking at the information we have been able to gather and although we are quite aware that the PE industry does not give too much insight into what it is actually doing.

Overview of topics we are looking at

In the following we first look at the basic eligibility of the PE asset class for the Responsible Investor and examine the caveats vis-à-vis PE and its involvement in the RI space because of the industry's image to generate external costs, e.g. by destroying jobs for the sake of short-term gain. We ask whether this argument is empirically justified and if so how limited partners can make sure the risks that come along with this are properly reflected in their risk management and manager selection processes. Second, we look at the thematic investments of the PE industry that are linked to ESG – predominantly Venture Capital⁵⁷ in 'cleantech'⁵⁸. Third, we focus on the processes that are already in place at limited partners and general partners and identify some of the elements that can be considered to be best practice. We also give some examples of how different players in the PE industry are implementing ESG.

Economic rationale behind the PE industry's engagement in ESG – the fundamental drivers

Agency costs reduced, potential impact increased

A sensible integration of ESG factors in the investment approach/process can help (1) to cut costs (e.g. energy efficiency, waste disposal); (2) to attract and retain employees, customers and suppliers; (3) to enhance the positions with lenders (demonstrating sound risk management practices) and (4) to improve exit outcomes (becoming a more attractive and valuable acquisition target). This all sounds very familiar to RI protagonists and, indeed, one could say that, basically, the same fundamentals apply as with listed

⁵⁷ Venture Capital is a subset of Private Equity and refers to equity investments made for the launch, early development, or expansion of a business.

⁵⁸ Cleantech can be defined as 'products, services and processes which intend to provide superior performance at lower costs, while greatly reducing or eliminating negative ecological impact, at the same time as improving the productive and responsible use of natural resources' (definition taken from the Cleantech Group).

equity. Nevertheless, PE exhibits some distinct features with respect to its suitability as an asset class for Responsible Investors. One obstacle to acceptance is the image of the industry, which is based on many examples of practices that seem to contradict basic principles of Responsible Investing. In the first place, it is suggested that PE investors tend to encourage steps that boost short-run performance at the expense of long-run performance and sustained corporate growth. As evidence of this claim, some critics point to the effects of PE ownership on employment (we discuss this in more detail below). Others refer to practices such as special dividends to equity investors financed with additional debt. A third point frequently put forward is that PE is a buy-to-sell model, not a buy-to-own model.

Buy-to-sell model does not automatically imply shorter time horizons

It is our view, however, that the arguments put forward against PE in an RI context are at least partly invalid and that there are many positive aspects of PE that clearly speak in favour of an engagement in this area. First, we do not think that the buy-to-sell model automatically implies shorter time horizons compared with investing in public equity. Empirically, it has been found that the average holding period in PE is around five years, which is certainly longer than that observed in the area of liquid publicly listed equity where tactical considerations lead to a high frequency of portfolio reshufflings. Second, the Impact Investors can achieve with PE is potentially much more direct, leveraged and effective than it is with public equity. On the one hand this is because investors in PE can concentrate on so-called pure-plays, i.e. on companies that offer solutions to specific social and/or environmental challenges (e.g. access to finance, renewable energy, etc.). On the other hand, the potential for integrating ESG factors in the 'corporate DNA' is much higher than in the case of listed equity investments, since PE often implies a controlling interest in a company either during a start-up, an expansion, or a turnaround phase. Therefore, for PE it is also more appropriate to invest in companies that do not yet manage ESG issues well (which is in line with the PRI guidance, see p. 61), if a plan for bringing about change exists.

Responsible Investing as a driver/catalyst of change

In particular, Venture Capital can play a crucial role in helping innovative companies come to life, become profitable and reach 'market' size. It can, for example, play an important role in the development of sustainable technologies and act as a catalyst for change in the transformation of the economy into a low carbon economy. An engagement of Responsible Investors in this area could thus be seen as a 'must' (we take a closer look at the themes Responsible Investing is engaged in below). Furthermore, the governance model of PE supports one of the central ideas of Responsible Investing and that is to make a difference. As a rule, PE managers (the general partners in a limited partnership with the asset owners) seek and actually exert significant influence or control over their investments. They frequently purchase a full or majority stake in the portfolio company and are represented in the board of the company giving them direct influence over corporate strategy, the operative management of the company and the way the company addresses ESG issues. In other words, the ownership and governance model allows for a much closer alignment of interests between asset owners, the investment manager and corporate management than is the case with public equity. As a consequence, agency costs can be significantly reduced (e.g. ESG performance can be evaluated from a corporate insider position).⁵⁹ This cost argument, however, has to be traded against the probably higher transaction costs (search, information and due

⁵⁹ From an agency cost point of view it may, however, be sensible to invest only in those companies that have a management team that already believes in the value of integrating ESG issues in business decision making.

diligence costs) that are implied by PE investments compared with public equity investments (the latter offers the possibility of a standardised rating-based approach). The paucity of ESG information can be traced back – among other things – to the fact that private companies are under less pressure from external stakeholder groups such as environmental or social NGOs.

Private status allows managers to pursue long-term strategies

The lack of transparency, however, also has an advantage, as it potentially solves a lot of the challenges to the RI approach that are caused by the short-termism of public markets and their offering of continual trading opportunities. The private status potentially enables managers to put long-term strategies in place and make them work without feeling the pressure of catering to the market's demands. As the managers of publicly owned companies are, on the contrary, forced to keep a close eye on quarterly earnings to maintain their company's stock price, they have an incentive not to make the often substantial investments in new processes, personnel or equipment required to drive strong, long-term growth.

Using the environmental perspective to achieve operational excellence

Having listed all the good reasons why Responsible Investors should be engaged in PE, we should not forget that there are purely financial reasons to be engaged in this area. Venture Capital investments in cleantech companies promise high rates of return, e.g. as a result of changing regulatory environments around the world. Furthermore, some general partners have started to discover the opportunity to use the environmental perspective in order to achieve operational excellence in the companies they invest in (we look at a few examples later in this document). Last but not least, the growth of the RI market, as described in the first section of this document, has created a new and attractive exit option for PE investors. If, for example, an IPO is considered, the 'equity story' should take all relevant ESG aspects into account to make sure to engage prospective shareholders with an RI background.

A 'no go'-area for Responsible Investors?

Private Equity and Responsible Investments; is this not a contradiction in itself? The image of the PE industry, at least in parts of Europe (including Germany), seems to suggest that the two parts do not really fit together. The image of PE can well be described by the attributes 'cold-hearted' and 'greedy', which appears to be the opposite of 'sustainable' and 'responsible'.

Anecdotal evidence seems to speak against PE as an RI asset class

We believe that the reservation vis-à-vis PE is understandable, given the multitude of negative examples that became public in the past, mostly characterised by PE funds generating social externalities (e.g. via destroying jobs). However, all in all, these are single cases, based on anecdotal evidence, that are not necessarily representative of the entire industry. After all, it is an empirical question whether the engagement of PE investors is fostering the prosperity of an economy in the long run. This question is certainly not easy to answer. Thus, we first take a short look at the scientific evidence available to date in order to give a qualified recommendation to the RI community with respect to the basic decision one has to make about whether or not to accept PE as an asset class to invest in.

Scientific studies find no support for the claim that PE imposes high social costs

In particular, we point to two academic studies conducted by highly respected economists on behalf of the World Economic Forum's 'Global Economic Impact of Private Equity Reports' of 2008 and 2009. The key results are as follows.

- Private Equity ownership is associated with broad-based improvements across a wide range of management practices (e.g. strong human capital management).⁶⁰ Often PE owned firms are particularly strong at operational management practices. Very few PE firms are really badly managed.
- Firms acquired by PE groups experience productivity growth in the two-year period after the transaction that is on average two percentage points higher than in the control group.⁶¹ About 72% of this outperformance differential reflects more effective management of existing facilities.
- The net impact of PE investments on employment was quite modest. While PE-backed firms shed jobs at a considerably higher pace at existing establishments (i.e. single factories or offices of the acquired entity) in the three years after the transaction, they also added jobs more rapidly at new establishments (greenfield job creation).⁶²
- Private Equity investors have a long-term ownership bias. Of the PE funds' investments, 58% are exited more than five years after the initial transaction. So-called 'quick flips' (i.e. exits within two years of investment by a PE fund) account for 12% of deals and have decreased in the last few years.
- Firms that undergo a buyout pursue more economically important innovations, as measured by patent citations, in the years after PE investments.⁶³ In a baseline analysis, the increase in the key proxy for economic importance is 25%. The overall quantity of patenting, however, does not appear to change systematically after PE transactions.

Our conclusion from these results is that we cannot see strong support for the argument that the PE industry in general is generating external societal costs that are unacceptable for a Responsible Investor. We do not consider this as a significant principle obstacle to investing in this area. The key, of course, is to put the right processes in place that take RI criteria into account.

Private Equity and ESG – the themes

We use the term 'Private Equity for Sustainability' (PE4S)⁶⁴ to denote all PE investments that take ESG considerations into account. PE4S is not synonymous with cleantech investing, although many Responsible Investors engaged in PE have a clear focus in that area in their portfolios. PE4S should be understood to encompass a wider scope of themes and impact types. Three categories can basically be distinguished:

Responsible Investing is not just a synonym for cleantech investing

⁶⁰ Based on a sample of 4,221 PE-owned and other firms in a sample of medium-sized manufacturing firms in Asia, Europe and the US.

⁶¹ Based on a sample of US PE transactions from 1980 to 2005 (4,500 target firms).

⁶² Based on US PE transactions from 1980 to 2005. The study utilises the Longitudinal Business Database (LBD) at the US Bureau of the Census and analyses employment at both the firm level and establishment level (specific factories, offices, retail outlets and other distinct physical locations). The LBD covers the entire non-farm private sector and includes annual data for 5,000 US target firms and 300,000 target establishments that were the subject of a buyout.

⁶³ The authors examined the impact of PE investment on the patenting behaviour of 495 firms between 1980 and 2005 worldwide with at least one successful US patent application filed from three years before to five years after a later-stage PE investment.

⁶⁴ Inspired by the Eurosif 'VC4S study' of 2007.

Changing the nature of processes in the economy

- **Product focus:** Firms that offer products that may change the nature of processes in the economy that are considered to be unsustainable. A prime example of this category is companies that offer solutions to mitigate climate change (e.g. renewable energy, energy efficiency, i.e. the classical cleantech themes).

- **Impact focus:** Firms whose objective is to generate positive socioeconomic impacts, e.g. by granting access to products or services to previously deprived categories of the population (access to housing, finance, medicine, etc. – the classical Impact Investing topics). The prime example of this category is microfinance. Focusing on environmental and social impacts often leads to the discovery of so far untapped markets and business opportunities.

Striving for operational excellence

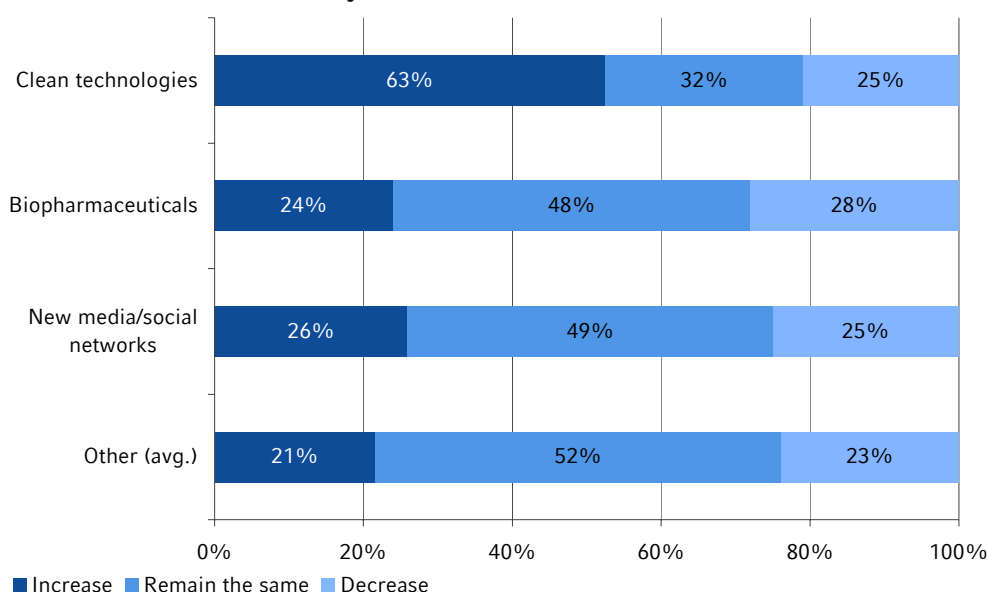
- **Process focus:** Firms that have the potential to significantly improve their environmental and social performance by changing their internal processes. Striving for operational excellence is in the PE industry's DNA anyway. Thus, the common driver of this type of engagement is the conviction that implementing sustainable business practices, e.g. in human capital management or environmental resource management, will improve the prospects of long-term success for a business. An example of this type of philosophy is the 'Green Portfolio' of KKR (see p. 64).

According to the results of a survey published in the above-mentioned Eurosif study of 2007, close to half of sustainable Venture Capital invested falls into the first category and around 40% into the second. Although the database is quite limited and the study is not up to date, we believe these numbers still reflect quite well the relative weight of the three categories within the industry.

Tremendous interest from the VC industry in the cleantech sector

The special significance of the first category, i.e. the product-related category, can also be deduced from the Global Venture Capital Survey, a mainstream survey, conducted by Deloitte. The results of the 2009 survey are based on 725 responses from all parts of the world. The respondents are general partners of VC firms with assets under management ranging from less than \$100m to greater than \$1bn. One key result the authors of the report put forward is the tremendous interest from venture capitalists in clean technologies, with more than six out of 10 respondents anticipating their investment levels will increase (see chart below).

In terms of total capital invested, anticipated level of investment change in select sectors, over the next three years



Source Deloitte, 2009

Share of cleantech investments within the global VC market was around 20% in 2009

The following table shows that around \$50bn was invested in the cleantech sector during the period from 2000-09. With more than \$30bn, investments in energy generation (primarily renewable energy) dominated the segment. Most of this was 'development capital', which can be explained in part by the acquisition activities of incumbent players in the utilities sector. In 2009, the share of cleantech investments within the global VC market was around 20%, making it as significant as the biotech sector. The geographic focus was on North America, similarly to the overall global market for VC.

Private Equity investments in the cleantech sector 2000-09 (disclosed deals only)

	Venture Capital		Development capital*	
	\$bn	Disclosed deal	\$bn	Disclosed deals
Energy generation	7.7	655	23.5	350
Energy efficiency	4.0	371	1.4	42
Energy storage	2.3	294	0.9	24
Materials	1.6	194	0.2	3
Recycling & waste	1.4	163	0.2	5
Transportation	1.4	89	0.4	12
Agriculture	1.0	175	1.6	14
Water & waste water	1.0	207	<0.1	3
Manufacturing/industrial	0.9	129	0.2	8
Air & environment	0.3	38	0.8	24
Total	21.6	2,312	29.2	485

* including buyout investments

Source Bloomberg New Energy Finance, Cleantech Group

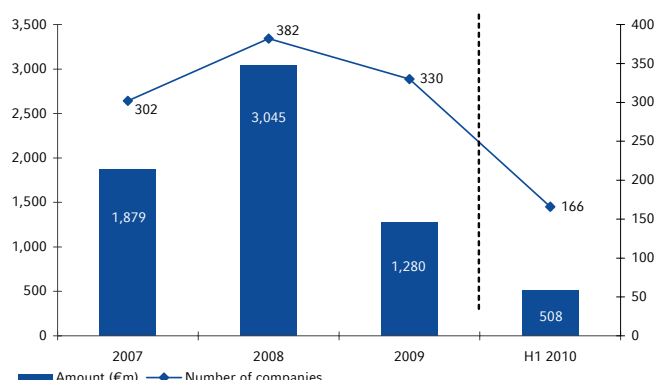
The European market for cleantech investments

To get a flavour of European cleantech investments, we look at data provided by the European Private Equity & Venture Capital Association (EVCA). Between 2007 and 1H 2010, the members of the EVCA invested €6.7bn of PE capital in 1,180 cleantech companies. As a share of the total European PE market, cleantech investments increased from less than 3% in 2007 to 5.6% in 2009.⁶⁵ During 2007-09, cleantech divestments accounted for around 4% of the total annual European divestment market (by amount) calculated at cost.

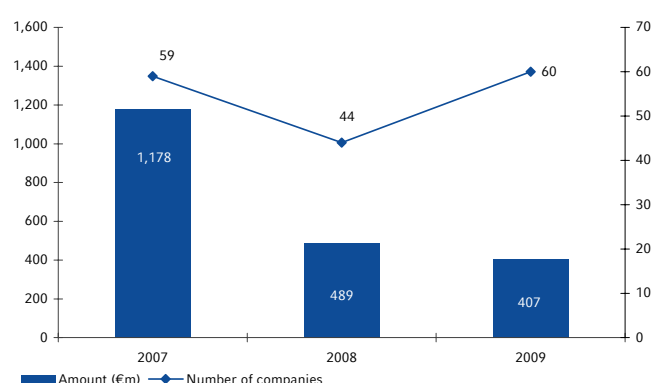
⁶⁵ The drop in 2009 (-58%) was in line with the overall drop in European PE investment (-57%) so that the share of cleantech in overall PE remained almost unchanged (2008 5.8% versus 5.6% in 2009). The decrease was observed across both the venture and the buyout and growth segment. Venture Capital

Private Equity and cleantech

Evolution of investments



Evolution of divestments (at cost)



Source EVCA, 2010

In the period 2007-09, the European cleantech market was driven mainly by investments in the alternative energy sector. It accounted for about one-quarter (263) of the 1,056 cleantech companies financed and 40% (€2.5bn) of the €6.2bn invested. It was followed by environmental services, with €1.2bn invested in 141 companies, and energy-related services, with €550m invested in 64 companies.

We assume that a significant share of cleantech investments comes from the RI community

In conclusion, the cleantech market is a significant part of the total PE market worldwide, as well as in Europe. The market had grown significantly before the financial crisis and we expect it to return to its growth path starting in 2011 (with the European market lagging behind the developments in the US). We assume that a significant share of the capital invested in this area comes from the RI community, in particular from the big asset owners that have committed themselves by signing the PRI.

Lack of political support may be the biggest risk factor

The biggest risk to this growth scenario may be seen in the dwindling political support for the cleantech industry.⁶⁶ First, the expectations raised by the belief that governments would bail out the economy with green stimulus packages turned out to be exaggerated. The market now seems to be much more realistic about the role of governments. The enthusiasm dwindled further after markets learned that the likelihood of a binding multilateral climate convention had fallen to close to zero following the failure of the Copenhagen conference. The hopes of many observers that national initiatives would step in and fill the gap have not materialised so far either.

Role of governments may also become more limited due to budget cuts caused by the financial crisis

The result is that the high-flying expectation that governments would increase their efforts to create a regulatory environment that encourages venture creation in low carbon technologies has not materialised. It has also become evident of late that many governments are reluctant to put more regulatory measures in place as they fear competitive disadvantages for their national industries in an overall very difficult economic situation. On top of this, the role of governments is also becoming more limited due to the budget cuts with which many reacted to the debt crisis that has developed in Europe. All in all, however, we do not believe that the fluctuating expectations about the role of governments will exert a dominant influence on the underlying fundamental trend.

cleantech halved from €1bn in 2008 to €513m in 2009, accounting for 13% of total VC investment value (16% in 2008). Similar to the VC segment, buyout and growth cleantech investments experienced a steep fall in 2009, down 62% from €2,020m in 2008 to €767m, accounting for around 4% of the total European buyout and growth market (unchanged from the years before).

⁶⁶ This was before the recent nuclear catastrophe in Japan, however. In some countries (e.g. Germany) the question of political support for the alternative energy sector may become a whole new ball game now.

Requirements, attitudes and expectations of limited partners

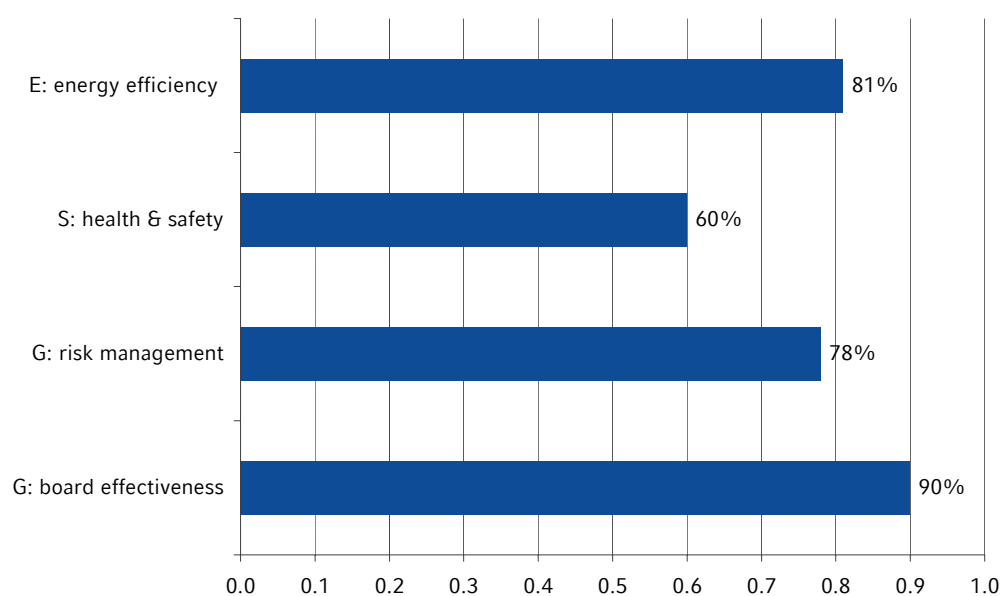
Which ESG factor, if satisfactorily addressed by a general partner, would increase limited partners' willingness to invest?

Private Equity and ESG – the processes/best practice examples

What requirements, attitudes and expectations do limited partners have relating to Responsible Investments in PE? Later, we look at the results of a working group that has developed guidelines under the umbrella of the PRI. First, we look at the results of a survey published in a study by KPMG in 2010. For the survey, 50 limited partners worldwide were asked what they saw as the key issues (generally in terms of industry and specifically in relation to general partners) and how their decision-making processes will develop. The aim was to gain an insight into their views on ESG risks in PE

Almost half the limited partners that participated in the survey rated a general partner's approach to ESG risk management as 'important' or 'very important' in deciding whether to invest in a fund. Furthermore, ESG risk ranked top among respondents when asked in which areas they would require more information from general partners over the next 12 months. At 37%, this was seen as much more important than the common investor request for 'more frequent and efficient communication', which was mentioned by only 21% of respondents. Survey respondents were also asked which criteria, if satisfactorily addressed by a general partner, under each of the ESG headings would increase their willingness to invest. The results are shown in the chart below.

Which criteria, if satisfactorily addressed by a general partner, would increase willingness to invest – top issues mentioned within each of the three pillars



Source KPMG commissioned research on limited partners' attitudes to managing ESG risks, 2010

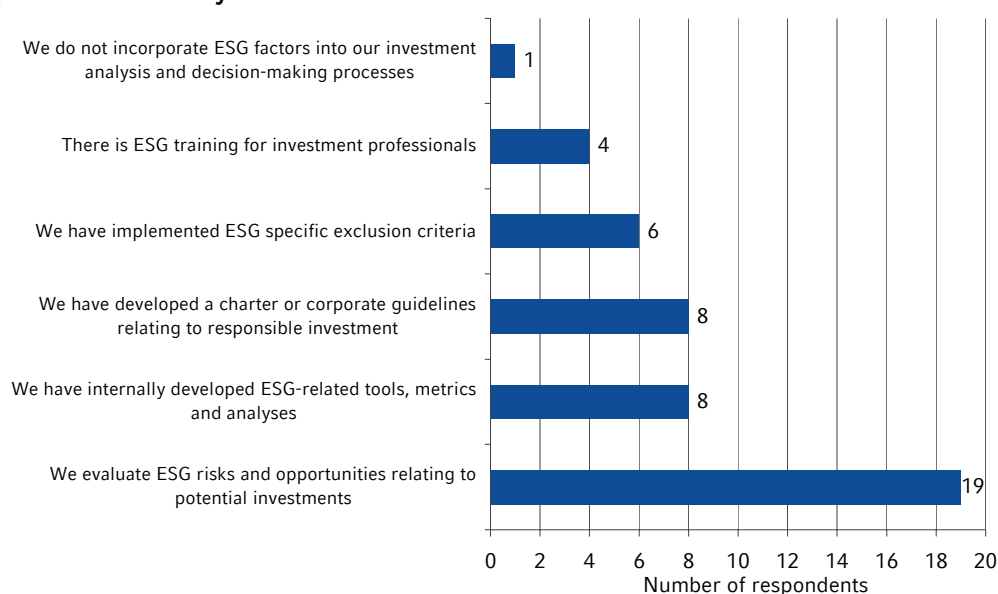
Energy efficiency (81%) comes in right after board effectiveness

Within the environmental pillar (E), energy efficiency (81%) was the top response by far, reflecting the fact that reducing a company's energy consumption is not only considered to be sustainable and responsible but also has a clear effect on the company's bottom line. Within the social pillar (S), health and safety turned out to be the most frequent response (60%). Yet in second place was consumer protection. Three-quarters of limited partners rated general partners as 'ineffective' or 'very ineffective' at managing risks in this area. Data privacy was third, and again, the majority of limited partners felt general partners were not managing this risk well (64%). Within the governance pillar (G), board effectiveness ranked highest at 90% and risk management came in second place with 78%. The latter two, however, cannot really be considered as RI criteria as they are present in traditional, purely financial criteria catalogues as well.

How do general partners integrate ESG factors in their decision-making processes?

Moving on to the general partner side, our general impression is that it is quite difficult to get a good overview of what is going on in this area. Some insight, however, can be gained by looking at the results of a survey conducted by Ethos, the Swiss Foundation for Sustainable Development,⁶⁷ in partnership with Unigestion in 2010. The survey asked 37 general partners to give information about their RI activities, 21 of which responded. The following chart shows the answers given with respect to the question about how general partners integrate ESG factors in their decision-making processes.

Incorporation of ESG factors in investment analyses and decision-making processes – survey results 2010



Source Unigestion, Ethos

Surprisingly high numbers raise the question of credibility

Quite surprisingly, a large majority of respondents (almost 86%) claimed to already have taken environmental and social risks and opportunities into account when making investment decisions. However, we cannot evaluate how serious they were about their answers. As a matter of fact, this type of question lacks specificity and there is no mechanism in place to penalise respondents for giving biased answers. This risk is much lower when looking at the more specific questions. After all, eight investment managers (38%) declared that they had developed guidelines, tools and metrics related to Responsible Investing. However, it is not clear to what degree they are using these instruments across their portfolios. Six general partners even said that they use ESG-specific exclusion criteria, although, again, it is not clear if this applies only to single mandates, which we think is likely, or is applied to all AuM, for example. As a positive signal, however, 76% of the respondents seemed to be prepared to augment the regular financial reporting to their limited partners with environmental and social indicators.

As we would have expected, 'engagement' plays a quite significant role in the PE segment according to the answers given. A total of 18 respondents (86%) claimed to have an active dialogue with their portfolio companies about the challenges they face in the ESG space.

Additional and more specific insights with respect to the VC segment can be gained by looking at the survey results that are reported in the Eurosif study cited above. At the time of the survey, the majority of respondents appeared not to have formalised their overall approach for taking ESG into account.

⁶⁷ Ethos was created in 1997 by two Geneva-based pension funds and currently has 110 institutional investors as members.

Tools related to sustainability issues – summary of responses

	Yes	No	No answer
Do you set (non-financial) objectives?	6	1	16
Do you refer to specific codes/standards?	4	5	14
Do you require specific human resources management systems?	2	10	11
Do you require specific environmental management systems?	1	11	11
Do you require specific sustainability management systems?	3	10	10
Have you set up tools for impact assessment?	6	9	8
Do you involve third parties in your impact assessment?	5	10	8
Do you benchmark your performance with regard to other traditional companies?	2	13	8

Source Eurosif, 2007

The dilemma of ambitious RI requirements and the scarcity of resources

However, we are talking about a dynamic environment and we assume that things have changed since then, although our feeling is that the results may still be fairly representative of the industry. Another interesting result of the survey was that around a quarter of the respondents seemed to have an 'Impact Investing' approach, which includes the setting of non-financial targets, the use of impact assessment tools and the involvement of third parties in the impact assessment process (e.g. auditing, verification). Furthermore, the respondents' answers showed that investors were hesitant to burden their portfolio companies with too many compliance-oriented tasks. The main reason for this is the typically scarce (management) resources that characterise the young and strongly growing companies targeted by venture capitalists. According to the survey answers, the dilemma between being confronted with sometimes ambitious RI requirements and having to cope with scarce resources is often solved by putting quite general sustainability related goals in place and refining them over time as the company becomes more mature.

'Many general partners believe they are already addressing ESG risks because they conduct environmental due diligence, for example. They also think that complying with legislation is enough. Neither of these views is consistent with the proper consideration of, or management of, ESG risks. General partners need to understand that good ESG risk management runs much deeper.'

Tom Rotherham, Hermes Equity Ownership Services

Establishment of RI guidelines for PE

The experience of many asset owners with an RI approach was (and probably still is) that most PE investment managers do not have a structured and consistent process in place to take ESG issues into account. This has led to the development of RI guidelines that are specific to PE. First, we mention the initiative of the US Private Equity Growth Capital Council (PEGCC), which is the lobbying, advocacy and research organisation for the PE industry. In 2009, the Private Equity Council, the predecessor of the PEGCC, announced that its members had adopted a set of comprehensive RI guidelines that grew out of a dialogue between PEGCC members (including some of the largest PE firms worldwide, e.g. Apax Partners, the Blackstone Group, the Carlyle Group, KKR, Permira, Silver Lake Partners and TPG Capital) and a group of major institutional investors that are signatories of the UN PRI, e.g. CalPERS, CalSTRS, USS, Robeco, APG). As we outline above, many general partners have become signatories of the PRI (including BC Partners, Doughty Hanson, Ironbridge, First Reserve and KKR; see full list in the table on p. 115 in the Appendix). However, there are no separate statistics for this sub-group in the yearly PRI survey, which makes it difficult to assess to what degree the members of this group have already implemented the guidelines in their investment approaches and processes.

Lack of transparency makes it difficult to gain a well-founded overall impression

The PRI case studies are of limited use in this respect, as the information they contain is very descriptive in nature and the examples given do not give sufficiently deep insights. The lack of transparency, which is part of the DNA of many general partners in the PE arena, makes it very difficult to gain a well-founded overall impression about what is really going on in this area. Before we come to some anecdotal examples, describing the approach of two leading general partners, we look at the requirements limited partners (might) have when it comes to integrating ESG risks and opportunities in PE investment processes. Some general answers to this question can be found in the UN PRI's 'Responsible Investment in Private Equity: A guide for Limited Partners' (2009), which was developed by the PRI's steering committee on PE established in 2008. The most important points in the document from our perspective are as follows.

Encourage general partners to improve ESG integration

- **Engage rather than exclude:** Limited partners are encouraged not to exclude general partners because of a failure to provide adequate responses during their due diligence processes nor to dissuade a PE fund from investing in portfolio companies based on their location, sector or the nature of their ESG impacts. On the contrary, the guide suggests significant value may be derived from investing but then engaging with general partners to encourage them to improve the integration of ESG issues in the management of the fund (including encouraging them to engage in and improve companies with significant but poorly managed ESG-related risks or opportunities).

Inquire into the performance of portfolio companies

- **Ensuring consistency across all investments and asset classes:** Limited partners should also inquire into a general partner's policies on, and the performance of portfolio companies against, ESG factors that the limited partner has prioritised, for example climate change, bribery and corruption, health & safety or human rights (compare to the process-related suggestions we made with respect to 'Impact Investing', see p. 27 and the following).

- **Topics for limited partners' questionnaires and engagement activities include:** the fund's mandate (e.g. focus on sustainability-related themes or sectors; consistency with limited partner's own ESG-related exclusion policy); the general partner's policies and processes for integrating ESG factors into investment decision making and ownership activities; the general partner's access to particularly important types of ESG-related expertise and the nature of the general partner's engagement with its portfolio companies on ESG issues (e.g. the use of independent experts or third party audits).

The example of CalPERS

An example of how a Private Equity/Venture Capital approach is implemented on the limited partner side is given by CalPERS. The pension fund is certainly an important driver of the PRI in general and the PE initiative of the PRI in particular. CalPERS also stands out from our perspective because it offers a comparatively high level of transparency with respect to its investment policies, processes and portfolio structures. Hence, we use the fund on several occasions throughout this document (for example showing its multi asset class portfolio structure, see p. 99). At CalPERS, the \$600m VC Environmental Technology Program is a classic example of an RI-related and motivated investment activity. It is part of CalPERS' \$30bn Alternative Investment Management Program, which shows up as a separate asset class in its SAA (with a targeted weight of 14%).⁶⁸

⁶⁸ In an effort to achieve consistency with respect to targeted investment goals and impacts, the AIM Environmental Technology Program is embedded in CalPERS multi asset class Environmental Investment Initiatives Program. Besides AIM, it also spans public equity (use of environmental screens, commitment of another \$500m) and real estate (adopting green building technologies within the overall portfolio).

'Helping to catalyse the adoption of environmental and clean technologies'

It targets investments in environmental technology solutions that are more efficient and less polluting than existing technologies. Areas of particular interest include, but are not limited to, alternative and renewable energy (clean energy), water technologies (clean water), advanced materials or nanotechnology (clean material) and air purification technologies (clean air). The primary objective of the programme is to achieve attractive investment returns over the long term (commensurate with the risk-adjusted returns of the general PE market) and help catalyse the adoption of environmental and clean technologies to the broader marketplace. In our view, this is a clear case of 'financial first Impact Investing' (see p. 32). The chart below gives an impression of what six of CalPERS' seven publicly known investment partners are doing and focusing on.

CalPERS' investment partners, 31 March 2010*

Investment partner	Comment
NGEN	A VC firm dedicated to identifying and nurturing emerging companies that address large market opportunities in the materials fields. The fund is engineered to support portfolio companies in accelerating product development progress.
Craton Equity Partners	Environmental and clean technology firm that invests in companies seeking to manufacture technology in the renewable energy, water remediation and air quality arenas.
DFJ Element	Manages a VC fund focusing on investments in high-growth, clean technology businesses. Invests in companies whose products or services make clean and efficient use of finite natural resources, be they energy, water, air, or industrial raw materials.
RockPort Capital Partners	Seeks to exploit revolutionary materials or technologies that offer outstanding value propositions for large US and global industries, such as water, power, energy, lighting, transportation, building products.
VantagePoint Venture Partners	Focuses entirely on the technology and healthcare markets. As an active multi-stage investor, it works closely with companies ranging from start-ups to young public companies.
EnerTech Capital	Has been successfully investing in energy and clean energy technology companies since 1996. Its strategy focuses on opportunities that reduce the cost of producing and consuming energy and clean energy.

* no information on investment focus given for Carlyle/Riverstone JV

Source CalPERS, December 2010

Examples on the general partner side from two leading PE managers – Carlyle and KKR

The information given in the chart is quite sparse and, as already mentioned, the entire PE industry is known to provide limited transparency (which might be considered to be part of its business model). This is particularly true for the industry's RI-related activities. Therefore, below we are able to provide examples from only two leading general partners (Carlyle and KKR), both of which proactively communicate what they do to integrate RI principles in their investment processes. Both firms co-operate with the Environmental Defense Fund (EDF), a leading US non-profit organisation that aims to link 'science, economics and law to create innovative, equitable and cost-effective solutions to society's most urgent environmental problems'. Whereas the focus of the Carlyle case study is on the evaluation/due diligence process, the KKR case study looks primarily at the post-investment phase and the assessment of the impact that has been achieved as a result of the programme.

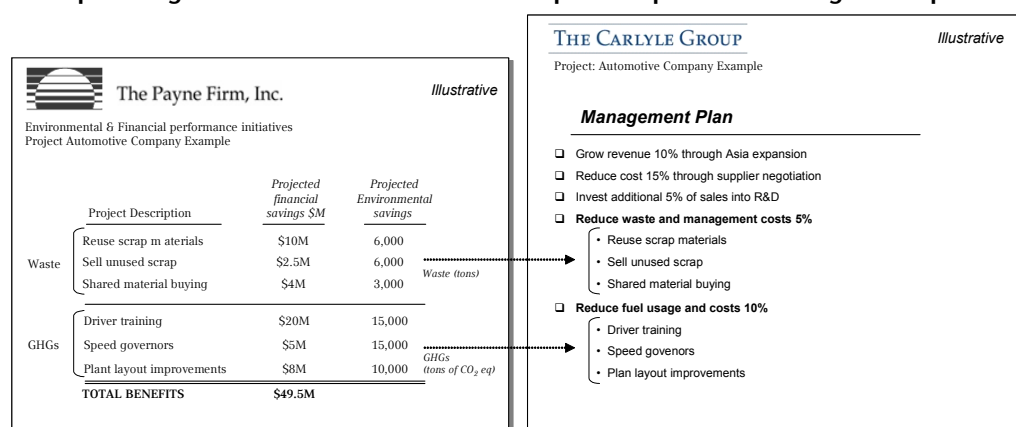
Adding a 'green lens' to due diligence

Together with EDF and The Pain Firm, The Carlyle Group – a global PE firm with nearly \$90bn of AuM – developed a due diligence process that goes beyond the current focus on risk mitigation by identifying opportunities for efficiency gains and value creation through environmental performance improvements of potential portfolio investments.

EcoValueScreen was created through four steps: portfolio analysis, correlation analysis, opportunity identification and integration

Carlyle's so called EcoValueScreen was created through four steps. First, the relative environmental and business performance of 327 current and legacy Carlyle portfolio companies was evaluated (portfolio analysis). Second, the common business activities were correlated with environmental impacts (correlation analysis). Third, opportunities to reduce the environmental impact of common business activities while driving financial savings were identified (opportunity identification). Last, but not least, the new screen was incorporated into Carlyle's current due diligence practice (integration). The screen is used to evaluate how environmental management can enhance the value of a new acquisition, inform the bidding process and be incorporated into the post-acquisition management plan.

Incorporating the EcoValueScreen into the post-acquisition management plan



Source The Carlyle Group, 2010

Building better running companies

KKR's approach does not significantly differ from Carlyle's. The basic philosophy as well as methodological approach is similar in principle. The Green Portfolio Program has the objective of helping KKR's portfolio companies manage their environmental impacts while also improving their business (increasing efficiency, reducing operating expenses and boosting the bottom line). As the programme expands, KKR intends to create opportunities to share ideas (via providing access to a database of best practices) so that every participating company can learn from the lessons of the others in an effort to accelerate the implementation of sensible solutions. KKR reports that the first eight member companies in the Green Portfolio Program have avoided greenhouse gas emissions of about 345,000 metric tons, 1.2m metric tons of waste and 8,500 metric tons of paper since 2008 (as of June 2010). According to KKR, this translated into a positive financial impact of \$160m.

Performance of KKR's Green Portfolio Program companies since 2008 (as of June 2010)

Company	Environmental impact	Financial impact
Accellent	6,600 metric tons of GHG emissions	\$785,000
Biomet	10,500 metric tons of GHG emissions	\$2.1m
Dollar General	160,000 metric tons of GHG emissions 10.8M cubic yards of waste	\$106m
HCA	32,500 metric tons of GHG emissions	\$4.7m
PRIMEDIA, INC,	8,500 metric tons of paper	\$7.5m
Sealy Corporation	14,000 metric tons of GHG emissions 2.9M lbs of waste	\$12.1m
SunGard	20,700 metric tons of GHG emissions	\$3.8m
U.S. Foodservice	101,000 metric tons of GHG emissions	\$22.3m

Source KKR, 2010

Tracking improvements across key environmental performance areas (KEPAs)

At the core of KKR's Green Portfolio Program is a set of analytic tools to help each company management team assess and track improvements across several key environmental performance areas (KEPAs), such as greenhouse gas emissions, water, waste, priority chemicals and forest resources, where improving performance can bring about measurable business benefits. The process is divided into four steps/stages. First, the selection of KEPAs based on a materiality assessment of environmental and business impacts (usually each company has one or two areas of focus for the year). Second, the establishment of key metrics to assess progress for priority issues (including collection of historical data and baseline definition for the selected metrics). Third, the definition of targets based on the selected metrics and the development and implementation of an action plan. Finally, the measurement and reporting of performance.

About 30% of portfolio companies are participating in the programme

As of October 2010, around 30% of KKR's PE portfolio, i.e. 17 of its portfolio companies, was participating in the programme (Accellent Inc., Biomet Inc., BIS Industries Limited, Dollar General Corporation, First Data Corporation, HCA Inc., Lehigh Phoenix, Oriental Brewery, Pets at Home, PRIMEDIA, Sealy Corporation, SunGard Data Systems Inc., Tarkett, U.S. Foodservice, Van Gansewinkel Groep, WILD Flavors and Der Grüne Punkt – Duales System Deutschland).

The limited scope of ESG integration is not sufficient from an RI perspective

In conclusion, it is probably not by accident that both leading general partners we looked at are engaged in a third type of RI-related approach within the PE asset class. Optimising the operational performance of their portfolio companies is their core business anyway. The only difference here is that a 'green lens' is added to the traditional purely economic perspective. This goes beyond the ESG elements that have been part of the pre-investment screenings of the past. Those were limited to environmental, health and safety issues related to operations at specific company sites and focused on legal compliance and the potential for social and environmental liabilities. Now, the taking into account of ESG factors has a much broader scope and is considered in the context of value creation. Probably the biggest difference to listed equity is that a negative result of a pre-investment screening/due diligence process is less likely to break a deal. A necessary condition is that the potential for substantial improvement can be demonstrated. A poor ESG performance of a particular target may point to a significant opportunity to add value by reducing costs, identifying new business areas, improving staff loyalty, improving reputation and ultimately boosting the marketability of a company's products. All this can also be quoted as a rationale for engaging with large public companies. The difference is that PE investors have a much larger leverage to make a difference and actually achieve the financial and non-financial goals they have set themselves.

Real assets

We understand investments in ‘real assets’ to comprise infrastructure, real estate and forestland/farmland. Investment opportunities include a wide range of different types, spanning from direct investments in single projects to investments in REITS or fixed income securities such as green bonds or mortgage-backed securities (MBS). One of the main distinguishing features of investing in ‘hard assets’ is that they have an immediate and sometimes a very significant impact on local communities and the tangible environment in which they are developed and that this impact can last for decades. This implies further that investing in real assets offers opportunities to generate a variety of positive external social and environmental effects such as providing affordable housing, promoting energy efficiency, supporting ‘brownfield redevelopments’ (i.e. the recuperation of damaged and/or contaminated areas)⁶⁹ or bringing economic development to underserved areas. The development of common practices and standards for reporting and measuring performance is still at a very early stage. There is lot of variation with regard to ESG integration across the different types of investments under consideration.

Key takeaways

- \$653bn of investments in infrastructure and real estate were subject to ESG integration by PRI signatories at the end of 2009 already. Thus, infrastructure displays the highest share (89%) of assets subject to ESG integration across all asset classes. With regard to penetration, the further potential for growth is therefore limited. The integration level for real estate is lower, but still quite high (74.3%). Against the background of a growing signatory base, we expect the volume of assets that are subject to ESG integration in this area to increase to \$800bn by the end of 2011. Compared to the expected overall market size this amounts to a share of just 2.3%.
- The thematic focus in both infrastructure and real estate investments is clearly on climate change mitigation projects. With regard to infrastructure, investments in emerging markets are supported by the flexible mechanisms of the Kyoto Protocol.
- The current market for ‘green bonds’ issued by institutions like the Worldbank or the European Investment Bank (EIB) simply appears to be much too small to be of strategic interest for the large institutional investors that are the main drivers of pushing RI up the innovation/penetration curve. One idea to move ‘green bonds’ out of their niche existence is to finance the big transformation of our economies into low carbon economies with the help of government-backed debt instruments with ring-fenced proceeds. In our view this will probably be the only way to arrive at a market that is sufficiently liquid and thus attractive for large institutional investors.
- With respect to real estate or property investments, the thematic focus is clearly on climate change (mitigation) and here particularly on the energy efficiency of buildings. Due to the obvious direct cost implications, regulatory requirements and the growing demand for ‘green buildings’ it appears fair to say that the topic is already ‘mainstream’. The biggest obstacle for portfolio investors to get more engaged is the lack of international standards that would allow a cross-border benchmarking of investment projects.

⁶⁹ Brownfield redevelopments play a key role in the US Environmental Protection Agency’s ‘Smart Growth’ initiative. The redevelopment or reuse of brownfields ‘may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands.’ The EPA has launched five pilot projects in partnership with the US Department of Housing and Urban Development (HUD), and the US Department of Transportation (DOT).

Parallels to PE investments

We interpret asset investments as investments in real assets as opposed to investments in companies.⁷⁰ This can be either single investment projects, e.g. a wind farm, or a pool/fund of ring-fenced assets. Usually institutional investors such as the big pension funds we have a special eye on do not engage in single direct investments but enter into investment partnerships as limited partners (see p. 94). Basically, this is no different from the situation we have described with regard to PE, so that the same requirements and considerations apply with respect to the setting up of sound due diligence (pre-investment) and monitoring (post-investment) processes. Another parallel with PE is that clean technologies play an important role here as well. The main difference is that one is not investing in companies that produce cleantech equipment or provide services in this area but in the asset base that relies on these technologies (i.e. clean energy infrastructure, wind parks, solar thermal power plants, smart grids, etc.).

Infrastructure investments: \$63bn was subject to ESG integration of PRI signatories by the end of 2009

Infrastructure

According to the PRI's 2010 progress report, PRI signatories had \$71bn invested in infrastructure at end-2009. Of this, a surprisingly high share of \$63bn was subject to ESG integration (89%) already, the highest share across all asset classes (conventional and alternative). However, compared with the total infrastructure market, which amounted to an estimated \$21,600bn, only 0.3% was subject to ESG integration by PRI signatories. Hence, the impact of PRI signatories in this sector is still minimal. In order to change this, it would be necessary to allocate a higher weight to the strategic asset allocation of asset owners.

To continue our analysis, we once again look at an example for the asset owner/limited partner side – and once again we refer to CalPERS here, which allows us to be consistent across all the different issues and asset classes we are addressing within this document.

'Infrastructure assets, by definition, support services that benefit society as a whole and are intended to serve a long and useful life

CalPERS' infrastructure programme is a part of the 'Inflation-Linked Asset Class', which has a strategic target weight of 6.5% in the pension fund's overall portfolio. In the programme's investment policy, CalPERS encourages the 'prudent use of sustainable development methods and operational practices' including the utilisation of responsible labour and management practices and implementation of responsible environmental practices. The fund gets more specific with respect to environmental issues only, by requiring that 'consideration shall be given to the use of renewable energy technologies, recycled and renewable building materials, air and water conservation technologies and practices, and efficient waste, recycle and disposal technology and practices. Consideration shall also be given to the environmental sustainability of investments including but not limited to energy efficiency, fuel economy, alternative energy generation and distribution impacts.'

The following table gives an overview of the different public and private infrastructure types in which the programme seeks to invest. The programme portfolio's share of equity investments ranges from 70% to 100% (debt investments within a complementary share).

⁷⁰ This definition does not perfectly apply to REITS. We have, nevertheless, included them here, because of the ring fencing of assets, the thematic fit and the comparability to private real estate funds. We come back to these later on.

Infrastructure Program – risk matrix

Low risk	Medium risk	High risk
Seasoned toll roads, bridges and tunnels	Airports, seaports	New build of toll roads, bridges, tunnels, airports
Regulated water/wastewater	Unregulated water/wastewater	Greenfield project development
Social infrastructure (hospitals, schools, prisons)	Industrial water/wastewater	Communications (broadcast, satellite, cable)
Regulated electric and gas	Contracted independent power generation	Merchant power plants
	Gas pipelines and storage (including LNG)	
	Rail	
	Other commercial/industrial infrastructure	

Source CalPERS, December 2010

Quite interestingly, when it comes to the risk assessment of the investments in the different infrastructure areas shown in the table above, CalPERS names two ESG factors explicitly, besides financial, political and regulatory risk factors.

- **Environmental and climate risk:** ‘Long-term investment returns may be impacted by risks and opportunities related to the environment and climate change’.
- **Hazardous materials:** ‘Implementation of the Program shall comply at all times with CalPERS Hazardous Materials policy’.

No elaborate links to sustainability issues

The description of the due diligence process does not include elaborate links to sustainability issues. In very general terms, it states ‘the fit within the Program, including fit with the Strategy, other constraints and guidelines, and compliance with applicable investment policies’ shall be reviewed and analysed. In more specific terms, ESG integration only appears when it comes to the due diligence of contingent liabilities. In this context, environmental issues are explicitly named together with anticipated legal action, under-funded pensions, taxes and insurance issues.

ECP is one example on the general partner side – a look at the Earth Dividend™ model

On the general partner side, we highlight Earth Capital Partners (ECP) as an example. ECP specialises in managing infrastructure funds focusing on renewable energy, sustainable agriculture and forestry. ECP claims that it has fully integrated ESG factors into its transaction evaluation, portfolio management and reporting processes, using a proprietary tool, the Earth Dividend™ model. It provides an annual measure of the sustainable development impact (positive and negative) of ECP fund investments across 30 ESG indicators. The 30 indicators are grouped into five categories, comprising natural resource consumption, ecosystem services, pollution control, social and economic contribution and society and governance. Each category has six ESG impact ‘tests’, which determine whether the asset has a positive, neutral or negative impact for a particular ESG issue, such as climate change, employee welfare or corporate governance standards. The ‘tests’ apply to the asset’s operation, its supply chain and the asset’s product/output. Each asset agrees an annual Earth Dividend™ performance improvement plan with ECP. This focuses on ESG indicators where improvement should also enhance the commercial rate of return of the asset. The Earth Dividend™ is audited by an external assurance provider.

Clean energy infrastructure investments

Asset investments in cleantech much higher than PE investments in the same area

Based on a study by Bloomberg New Energy Finance (2010), asset investments in clean technologies amounted to \$379bn during the period from 2000-09; much higher, for example, than the PE investments in the same sector (around \$50bn, see table on p. 56). Around \$100bn (i.e. roughly 25% of the total volume) can be assigned to equity

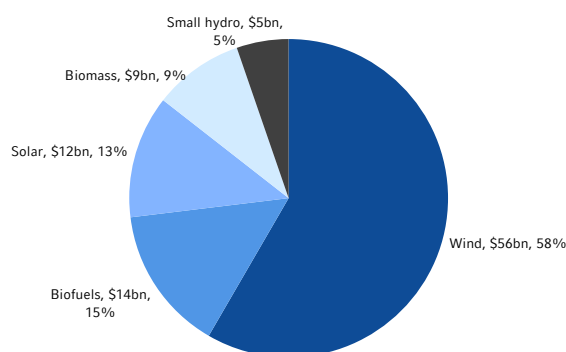
transactions, the rest was debt related. The thematic focus was again on energy generation, similar to the VC and DC⁷¹ segment.

Growth was mainly driven by national regulatory frameworks

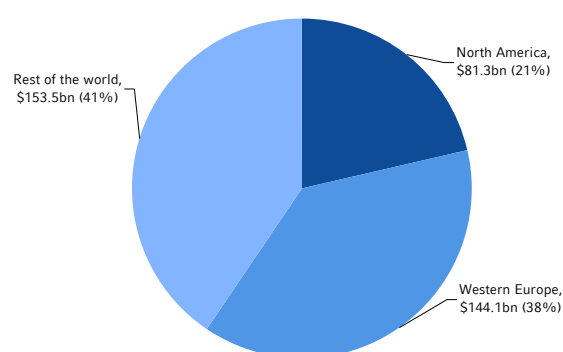
Before the financial crisis (2000-08), the CAGR in this segment was 64%, which is higher than that measured for the cleantech VC segment. Unlike VC, the geographic focus was on Western Europe, with a market share of 38%. This was driven mainly by the political and regulatory frameworks in some European countries, such as Germany or Spain, that have subsidised their renewable energy sectors with mandatory feed-in tariffs. At the same time, however, this is exactly what makes the market particularly vulnerable, as has been demonstrated of late by the significant regulatory adjustments made in some European countries.

Cleantech asset financing – disclosed deals

By type



By region



Source Bloomberg New Energy Finance, 2010

The role of the 'flexible mechanisms' of the Kyoto protocol

In our view, the comparatively high rest of the world share of 41% probably relates to the generally high demand for energy infrastructure investments in developing or emerging markets. It is probably supported by the so-called 'flexible mechanisms' of the Kyoto protocol, which created the opportunity to enhance the returns on investments with carbon credits or to fulfil the corporate sector's obligations accruing from the European Emissions Trading System (EU-ETS).

One example in this area is Climate Change Capital (CCC), a UK-based environmental investment manager and adviser and a signatory of the PRI. As a General Partner, CCC develops and manages funds that invest in companies, projects and technologies that facilitate climate change mitigation or adaptation. Its Carbon Finance Fund, for example, invests in clean energy infrastructure projects in emerging markets (e.g. in China, India, South East Asia) that operate under the CDM and hence generate CERs. These are used, for example, for upfront financing through carbon purchase agreements. Investors include some of the world's largest pension funds, most of which (if not all) are signatories of the PRI as well. The attractiveness for investors lies in the combination of investing in projects that can have an impact and at the same time use the carbon credit market potentially to enhance the financial return of the projects in which they invest.

⁷¹ DC stands for development capital which refers to investments in companies that have passed the start-up phase already. In general, these companies are already established and more profitable than start-ups and thus less risky investments. As in VC, DC is designed for an exit in the foreseeable future (e.g. in form of an IPO).

However, there are also challenges. One of them is the necessity of an in-depth on-site due diligence for these projects. This is not only costly but also requires specialised knowledge. One of the main risks, for example, is that the envisaged CER volumes finally cannot be generated. The carbon price risk, on the other hand, may be hedged. All in all, this is an interesting field for Responsible Investing in our view, as the call for ‘having an impact’ can potentially be met (ideally this is the case when the condition of ‘additionality’ of the project is fulfilled).

An alternative for institutional investors to investing into clean energy infrastructure projects via limited partnerships is to do it via so-called ‘green bonds’, which have the advantage of a much higher liquidity and a much lower credit risk.

Green bonds

In order to finance investments in green infrastructure projects of the type we have described above, financial institutions such as the World Bank or the European Investment Bank (EIB) have issued so-called green bonds. Two variants need to be distinguished: (1) standard bonds and (2) bonds with an asset-backed security (ABS) structure. In the case of the former, the issuing bank refinances its lending activities with regard to this type of project. There is no direct link between the project cash flows and the payments to the bondholders. Hence, from a financial perspective it is the credit rating (also reflecting ESG factors) that counts and from the non-financial perspective it is the classical ESG rating of the institution. This means that usually no specific due diligence of the lending portfolio is executed. This is different when we come to the second type of bonds, i.e. those with ABS structures. Here, the underlying portfolio of investments is to the fore and, accordingly, the auditing of all of these projects from a financial and non-financial perspective is necessary. This applies to all types of covered bonds with an ESG background.⁷² As a direct due diligence would be too complex and too costly for investors, it may be a good idea to watch out for a third-party verification/certification. We are not aware whether green bond issues with this type of configuration already exist.

Two variants need to be distinguished: (1) standard bonds and (2) bonds with an ABS structure

Current volume of the green bond market is still comparatively low

The current volume of the green bond market is still comparatively low, as the table below indicates.⁷³ So far, the products launched in this area have primarily targeted retail investors and were designed accordingly. However, a lot of effort is currently being made to attract institutional investors with long-term investment horizons by fitting the products according to their needs. For example, the E3G initiative in the UK has been promoting the idea of increasing the share of green bonds in the portfolios of pension funds in order to finance the climate change mitigation challenges the country is facing. To achieve this, the initiative says an allocation of £265bn would be necessary, equating to a share of 8.8% in the total portfolio and 26.5% in the bond sub-portfolio of UK pension funds.

⁷² In the social area, for example, this could be bonds with an underlying portfolio of microcredits.

⁷³ However, the growing interest in the ‘green bond’ segment is reflected by the fact that new players are stepping into the market. For example, the European Bank for Reconstruction and Development (EBRD) and Deutsche Bank have recently launched green bonds to finance environmental projects. The proceeds of the ‘Environmental Sustainability Bonds’ will support projects aimed at promoting sustainable development and clean energy technologies in Central and Eastern Europe and Central Asia. They would also help to improve energy efficiency, water and waste management, environmental services and public transport. The bonds, denominated in Australian dollars, will fund the renewal of water and power infrastructure to cut greenhouse gas emissions. The issue was distributed to Japanese retail and institutional investors.

Some existing green bonds

	World Bank	EIB	Breeze	CREB (2009) ⁷⁴
Credit rating	AAA	AAA	BB-CCC	AAA-BBB
Currency	Multiple	€	€	€
Amount outstanding (£m)	700	750	800	1,500
Return	Fixed	Fixed and equity linked	Fixed	Fixed
Use of the proceeds	Broad adaptation and mitigation projects	Renewable energy and efficiency projects	Wind turbine projects	Renewable energy projects

Source E3G, May 2010

Refinancing lending activities with respect to climate change adaptation and mitigation projects

The World Bank's green bonds, for example, are intended to refinance the institution's lending activities with respect to climate change adaptation and mitigation projects. Since the inaugural issue in 2008, the World Bank has issued over \$2bn in green bonds through 33 transactions (as of February 2011). During the same period, the issued total volume was around \$60bn, so that green bonds had a share of around 3%. The projects are selected by World Bank environmental experts and have to meet specific criteria for low-carbon development that underwent an independent review by the Center for International Climate and Environmental Research at the University of Oslo (CICERO).

Examples of eligible mitigation projects are solar and wind installations, rehabilitations of power plants and transmission facilities to reduce greenhouse gas emissions, greater efficiency in transportation, waste management (reducing methane emissions), construction of energy-efficient buildings, carbon reduction through reforestation and avoided deforestation. Examples of eligible adaptation projects include protection against flooding, food security improvement and implementing stress-resilient agricultural systems, sustainable forest management and avoided deforestation.

The financial risk of the World Bank's green bonds is not directly linked to the cash flows of the underlying credit portfolio. The credit rating is equal to that of all other bonds issued by this institution. It is this feature in particular that also makes them an attractive investment for large institutional investors with RI backgrounds.⁷⁵

The green bonds issued by Breeze, on the other hand, are structured as ABS. Interest and redemption payments are backed by the relatively stable and safe cash flows of the underlying portfolio of wind power generation projects. Most of these projects are located in Germany, driven by the favourable regulatory conditions (fixed feed-in tariff).

Deploying capital directly into liquid, rated and asset-backed bonds at low cost

A study by CCC makes a proposal for a not yet existing green bond (green gilt) market. The work was motivated by the observation that there appears to be a 'significant gap between the amount of capital that needs to be invested in new low carbon infrastructure and the amount that is actually being invested'. To close this gap, a series of targeted government-backed debt instruments with ring-fenced proceeds going directly or indirectly (via a state guaranteed 'Green Investment Bank' [GIB])⁷⁶ into green

⁷⁴ CREB: Clean Renewable Energy Bonds. The US Energy Policy Act of 2005 provides the basis for issuing special 'tax credit bonds', which allow power utilities to receive interest-free loans for qualifying projects. Their total volume is limited, however. In 2009 the upper limit of the programme was \$2.2bn, for example.

⁷⁵ According to the World Bank the list of investors includes: the California State Treasurer's Office, CalSTRS, Gamla Lifsförsäkringsaktiebolaget, MMA Praxis Mutual Funds, New York Common Retirement Fund, SEB Trygg Liv, Second Swedish National Pension Fund (AP2), Third Swedish National Pension Fund (AP3) and the UN Joint Staff Pension Fund.

⁷⁶ The proposed GIB could play a role in helping to speed up the creation of a liquid market in green infrastructure bonds. There are two broad types of temporary intervention that could be undertaken: (1) monoline – the GIB could act as a bond insurer. For example, it could provide a paid-for investment grade wrapper around the issuance of green infrastructure bonds; and (2) purchase sub-tranches of subordinated debt from early bond issuances – the GIB could improve the risk profile of green

infrastructure projects is proposed. This is perhaps the only source of capital large enough to finance the scale of low carbon infrastructure investment required given constrained bank and utility balance sheets.⁷⁷ Besides the ring-fencing it is intended that these instruments will be structured in as conventional a format as possible, as any non-standardised structures would require significant up-front investments for investors to understand fully the risk profile of the new product and would therefore hamper the effort to establish the necessary market size.

Two options for allocating funds to projects are named

There are two options named for allocating funds to projects. The first option would be to disburse funds in a non-directed way at investments with low carbon characteristics. The government could do this by setting up a framework process by which the existing banks 'bid' for capital for specific low-carbon projects that they would like to fund based on a set of criteria. This would enable money to get into the system quickly and removes some of the moral hazard attached to the government getting involved directly in these investments. However, the government would have limited control over which projects were targeted because selection would be market led. The second option would be to disburse funds through the GIB in a more directed and controlled way.

Investments in green bonds may be considered to be complementary to investments in green infrastructure via investment partnerships (infrastructure funds). Infrastructure funds, especially those that specialise in energy and low carbon infrastructure, often focus on construction or pre-construction phase equity finance because of the higher returns, rather than on the debt refinancing of operational assets. The risk-reward profile is therefore different from safer green infrastructure bonds.

\$590bn was subject to ESG integration by PRI signatories at the end of 2009

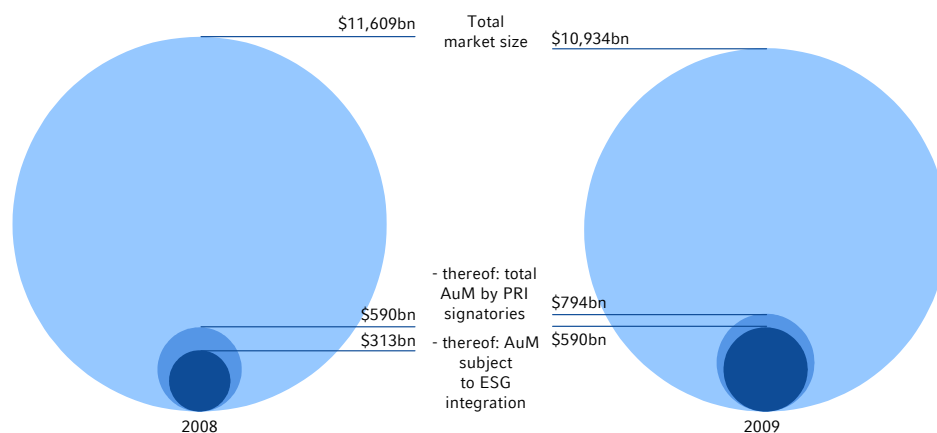
Responsible Investing in real estate – more than just 'green buildings'

According to the PRI's 2010 progress report, \$794bn was invested in real estate or property (listed and non-listed) by PRI signatories at the end of 2009. Of the \$794bn, a considerable share of \$590bn was subject to ESG integration (74.3%) already, outperforming the conventional asset classes (listed equity 68.7%, bonds 38.4%). The following chart summarises the market situation based on the numbers taken from the PRI survey. The economic rationale behind ESG integration in real estate/property investing is that it may add financial value via reducing operating costs, increasing tenants' satisfaction and retention and their willingness-to-pay, securing long-term viability, and mitigating regulatory risks.

infrastructure bonds by temporarily taking some first-loss layers from early bond issuances. As recently announced by the UK government, the bank will be launched a year earlier than planned (i.e. in 2012) with an initial capital of £3bn.

⁷⁷ According to the CCC study, various studies have shown that at least £200bn of low-carbon infrastructure investment is required in the UK between now and 2020. Ernst & Young estimates that traditional sources of capital for low-carbon investment in the UK – ranging from utilities' ability to finance from balance sheet through to project finance and infrastructure fund support – amount to only £50–80bn over the next 15 years.

Real estate or property investments by PRI signatories (listed and non-listed)*



* internally and actively managed assets only

Source UN PRI, 2010

5.4% of the total market is subject to ESG integration – at least

Comparing this with the total real estate or property market size, which amounted to an estimated \$10,934 bn, PRI signatories made up 7.3% of the total market and 5.4% of the total market was subject to ESG integration by PRI signatories. The 5.4% is an estimate of the lower bound only, as not all investors that have integrated ESG into their real estate or property engagement are necessarily signatories of the PRI. The upper bound, in our view, should not be higher than 10% (\$1,100bn).

Focus is on climate change mitigation, i.e. the energy efficiency of buildings

When it comes to investing in real estate, the thematic focus is clearly on climate change mitigation, i.e. on energy-efficient buildings for which quite frequently the label 'green buildings' is used as a synonym. This is understandable, given that building infrastructure is one of the biggest contributors to global CO₂ emissions. This makes the topic attractive from an 'impact' perspective but has also paved the way for a strong economic and commercial line of thinking. First, the changing regulatory requirements in many developed and emerging countries need to be mentioned in this respect. The expectation is that they will become much stricter in the years ahead, which has significant implications for market values and marketability of real estate. This is already well reflected in the attitudes of real estate professionals as shown by the results of a survey conducted by Jones Lang LaSalle:

Of a total of 360 participants worldwide, 47% said they consider the 'sustainability' of commercial buildings (i.e. energy efficiency in the first place) an important factor for the marketability of buildings and another 25% said they expect it to become important in the medium term. This is also reflected in their assessments of commercial tenants' willingness-to-pay for sustainable property as the table below shows. Premiums for sustainable buildings can also be expected when it comes to the resale of property. A study by the University of Maastricht, for example, determines an average premium of around 16%, while arguing that the initial investment costs for a sustainable building do not necessarily have to exceed those of a conventional building.

Survey among real estate professionals – assessment of the willingness-to-pay of commercial tenants for sustainable property (percentage of responses)

Premium (%)	Europe	North America	Asia	Australia/New Zealand
0	34	23	36	32
1-10	64	74	48	61
>10	2	3	16	7

Source Jones Lang LaSalle, 2008

In the social dimension, topics such as 'affordable housing' are to the fore

Although the energy efficiency of buildings is probably the most important single issue within the sustainable real estate topic, one should not forget that other issues are also significant from an RI perspective. For example, 'Impact Investors' are traditionally strongly engaged in the 'affordable housing' topic, which can of course be a 'double-edged sword' as the collapse in the US real estate market (at least in part caused by the wish to allow all Americans to own a home) and its role as the main cause of the global financial crisis has shown. The implication of this is that it is extremely important to make a sensible and sound assessment of the expected impact of an investment. Besides the social topics (such as affordability or demographics) that can be addressed beyond a building's energy efficiency, other environmental issues can also be targeted (such as water consumption or waste).

Lack of international standards and benchmarks is an obstacle for investors

A big obstacle to the further development of the market for sustainable real estate is the lack of international standards and benchmarks that investors need and demand as a common basis for selecting the individual assets for their portfolios. The multitude of national initiatives that has been developed over the last one or two decades is helpful in this regard but also causes some confusion and does not necessarily lead to an increase in transparency and comparability.⁷⁸

Some investment examples: Credit Suisse and Climate Change Capital

One example of a targeted investment option is the 'Credit Suisse Real Estate Fund Green Property', which was launched in April 2009. It invests in new construction projects in Switzerland and focuses on sustainability in the selection of assets. The properties and projects, the fund says, must meet the strict requirements of the 'greenproperty' seal, a standard that has been developed by Credit Suisse together with a consultant. It assesses five quantitative and qualitative criteria (utilisation, infrastructure, energy, materials, life cycle) and not only covers environmental issues but also includes economic and social aspects. The value of the fund is around CHF 300m.

Another example is the Climate Change Property Fund managed by Climate Change Capital (CCC). According to CCC, the fund's management strategy is to improve property values through low-carbon retrofits that increase energy and carbon efficiency. Based on the results of an in-depth due diligence process to identify the opportunities to improve a building's performance, the fund discusses 'mutually beneficial' options (i.e. the allocation of retrofit costs and in-use cost savings) with tenants. We believe that targeting the existing stock of building is to be particularly welcomed from an Impact Investing perspective. Innovative financing solutions are needed here to overcome adverse incentive problems.

⁷⁸ The most established benchmarks in this area are the Building Research Establishment Environmental Assessment Method (BREEAM) rating (UK), which was introduced in 1990, and the US domiciled Leadership in Energy and Environmental Design (LEED) rating, which was established in 1998.

Special character as ring-fenced corporate entities

Listed real estate or property/REITS

An alternative to direct investments or investment partnerships is to engage in REITS (real estate investment trusts). Admittedly, one could object that REITS are part of the listed equity asset class, which is formally true in most cases (e.g. in the US or Germany). However, because of their special character as ring-fenced corporate entities that own, run or finance real estate and distribute a large share of their income to investors,⁷⁹ we suggest classifying these funds as asset investments under the 'alternative asset classes' umbrella.

Listed real estate: \$172bn was subject to ESG integration by PRI signatories at the end of 2009

Looking at the numbers of the UN PRI progress report 2010 (see chart on p. 35), we assume the values given for listed real estate or property largely coincide with investments in REITS. They make up 37% (\$297bn) of the overall volume invested in real estate or property by PRI signatories. Of this amount, 58% (\$172bn) was subject to ESG integration, much less than the 84% displayed for the 'non-listed' segment. Looking for examples of a 'green REIT', we found the NYSE-listed Liberty Property Trust, which owns 79.8m square feet of office and industrial space (more than 700 properties) in over 20 markets throughout the United States and the United Kingdom. The company develops, acquires, leases and manages properties with the mission to 'enhance people's lives through extraordinary work environments'. As an extension of this promise, Liberty considers itself to be the nation's leading commercial developer of high-performance green buildings.

Examples of 'green REITS'

Another example is Sarasin's REIT fund, which was believed to be the first fund to specialise in sustainable real estate investment trusts when launched in 2009. However, the fund not only invests in REITs but also considers other listed property businesses. Investments are selected on a global basis and reflect the companies' efforts with regard to sustainable construction and environmental management.

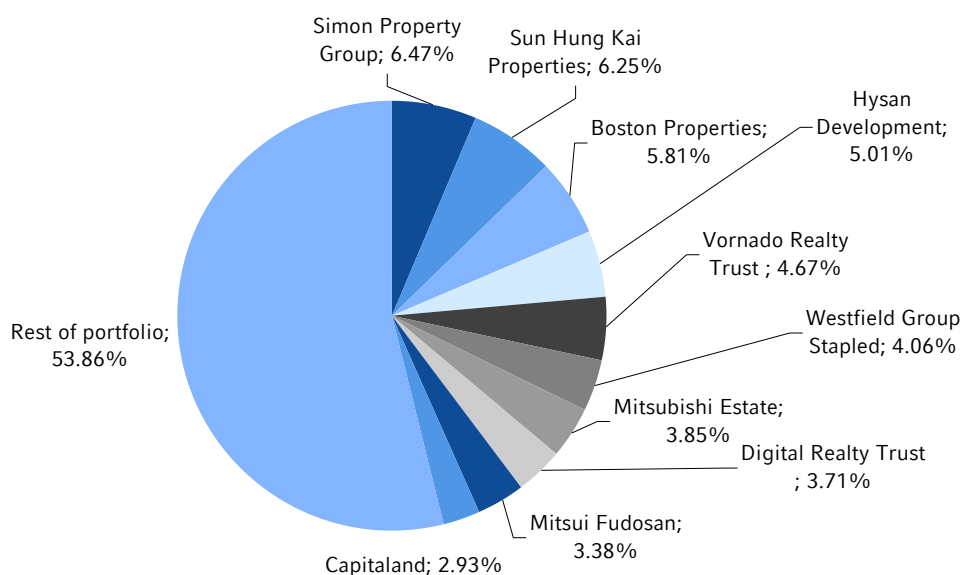
Among the 10 largest positions in the fund (see chart below), there are three US domiciled REITS. First, Boston Properties (portfolio weight of 5.81%), a self-administered and self-managed real estate investment trust, is one of the largest owners, managers, and developers of premium office properties in the United States. Second, Vornado Realty Trust (4.67%), which is one of the largest owners and managers of commercial real estate in the US, with a portfolio totalling over 100m square feet. Third, Digital Realty Trust (3.71%), which is the world's largest wholesale data centre provider.

Real estate investments – a look at the general partner side

Finally, we again look at the limited partner side. At CalPERS, for example, the real estate environmental strategy is a part of the 'Environmental Investment Initiatives' programme. It focuses on the generation of attractive investment returns while adopting environmental and green building technologies in areas such as energy efficiency, water conservation, waste stream management and indoor air quality, within the overall real estate portfolio.

⁷⁹ The income they distribute to shareholders is taxable only at the shareholder level, not at the corporate level. The original idea for the introduction of REITS in the US was to put them on an equal footing with mutual funds regarding taxation.

Sarasin Sustainable Equity – Real Estate Global – the 10 largest portfolio positions (as at 30 November 2010)

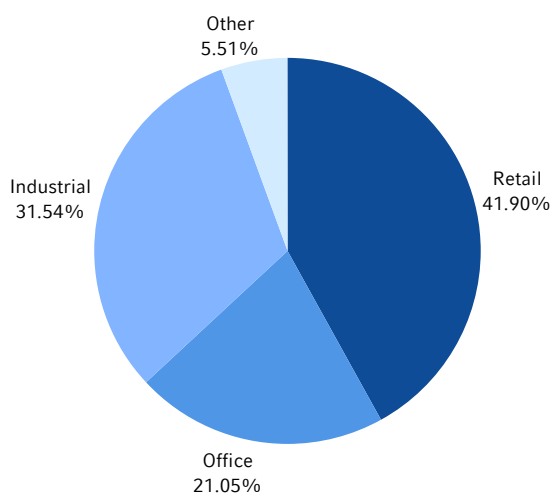


Source Sarasin, December 2010

CalPERS' board has set an energy reduction goal of 20% in its core real estate portfolio over the next five years. The pension fund owns approximately \$5bn of core real estate, which includes investments in office, retail, industrial and apartment properties. The real estate environmental strategy also supports green building initiatives and continues to explore investments that fit within the Leadership in Energy and Environmental Design (LEED)/Energy Star requirements.

At USS the property portfolio totalled £2.04bn as of 30 June 2010. The fund's objective is to integrate RI-considerations into all aspects of its development policy and to take environmental and social risks and opportunities into account throughout the management of the direct property investments. Altogether, eight concrete objectives are named, with two action points for each of them. However, it is not known to what degree these objectives have been implemented already.

USS property portfolio



Source USS, 2010

The formula 'wood = green = sustainable' does not apply

Forestland/farmland⁸⁰

To say it directly, the simple formula 'wood = green = sustainable' should certainly not be taken as the basis for Responsible Investing in this area, despite the definition of 'sustainability' as we understand it today being shaped significantly by forestry. So what does it actually mean to invest in forestland from an RI perspective? For the purpose of illustration, we once again look at CalPERS as an example.

The fund's Forestland Program is a part of the Inflation-Linked Asset Class, for which the target allocation is 5% of the overall portfolio (see table on p. 99). The Forestland Program makes up 20% of this sub-portfolio or 1% of the overall portfolio (see table on p. 112 in the Appendix). The target holding period for forestland assets is generally a long-term investment (10 years or more).

CalPERS: taking impact of biodiversity, water, air quality, etc. explicitly into account

Besides general RI considerations, CalPERS explicitly calls for taking into account the impact of investments on biodiversity, water and air quality, soil conservation and local communities in its forestland investment policy. Another important aspect is the reference to standards. On the one hand, the fund expresses a clear preference for investment opportunities with an independent environmental or forest certification. On the other hand, a lack of certification does not necessarily lead to exclusion. Instead, CalPERS aims to engage with the property managers and encourage them to seek certification and to commit themselves to a fixed timetable for its realisation. In these cases, the due diligence process will benchmark the management practices against an international or national standard for forest management appropriate for the region in which the asset is located.

Non-conventional forestland investments

Investments in emerging product markets for forestlands involving non-traditional sources of revenue such as carbon sequestration and the production of feedstock for biofuels are explicitly permitted in the fund's investment policy. According to CalPERS, these investments are subject to the same performance requirements as traditional forestland investments and are scrutinised rigorously prior to committing funds and monitored closely to ensure acceptable performance.

Exclusion criteria

The fund, however, also names clear exclusion criteria. For example, the purchase of land for the primary purpose of commercial land development and speculation is prohibited (interestingly, we found no such thing with respect to commodities). Investments are prohibited if they involve forced labour, the illegal or harmful use of child labour, violation of community or indigenous peoples' legal or usufruct rights, or violation of laws or regulations pertaining to threatened or endangered species.

⁸⁰ We don't distinguish here between forestland and farmland, since similar considerations in an RI context apply to both. The reason why we focus on forestland simply is that we found more concrete evidence for large institutional investors' engagement in this sub-group. Nevertheless we believe that farmland/agricultural land will become increasingly popular among this investor clientele as well. One example on the general partner side is AGinvest from New Zealand. The agricultural fund manager was established in 1990 and today manages 23 farms. Its main investment focus is dairy farms. On its website the company explicitly points to being able to apply management systems that help 'to minimise carbon, nitrogen and water footprints'.

Hedge funds

Strictly speaking, a hedge fund is just a special type of private investment partnership or investment vehicle and not an asset class in its own right. The underlying assets hedge funds invest in are primarily the ones that are most liquid, i.e. publicly listed stocks and bonds, and derivatives (including commodities and currency). They operate in a far less restrictive regulatory environment than publicly traded funds, which (1) gives them the opportunity to use trading strategies that are not accessible to other investment vehicles and (2) allows them to remain relatively non-transparent. At a practical level, however, hedge funds are frequently viewed as an asset class and many investors are now allocating a percentage of their portfolio to hedge funds in the same way as one would seek an allocation to public equities or fixed income instruments. Hedge funds have built up an image of focusing on short-term profit maximisation and there are still only relatively few examples for ESG integration. In our view, however, there is nothing intrinsic to the framework in which hedge funds operate which necessarily prevents them from embracing an RI approach.

Key takeaways

- \$36bn of investments in hedge funds were subject to ESG integration by PRI signatories at the end of 2009. We estimate this number will jump to \$60bn by the end of 2011 which would correspond to around 3% of the total hedge fund market. Hence, there is much room for further growth. We believe that hedge funds will be the next big topic discussed in the RI community (together with commodities).
- There is a lot of scepticism around when hedge funds and Responsible Investing are put in one basket. However, we believe that there are many aspects within the typical investment approaches of the hedge fund industry that are consistent with RI philosophies and techniques. In our view it is possible to successfully integrate RI criteria in a typical hedge fund strategy, but certainly not in all of them.
- One big advantage of the hedge fund industry is that it is sufficiently flexible to adapt to the new requirements put forward by their investment partners and implement RI processes very quickly. The bar for ESG integration to be accepted within the hedge funds domain, however, is raised higher, since the income of the funds is mainly driven by performance-based fees. The best indicator for the relevance of ESG factors to financial risk and return would be the adoption of integration approaches by the hedge fund industry.
- For us, an important indicator (if not the decisive one) for the eligibility of a hedge fund strategy type is the degree to which it shares the same type of concepts, methodologies and practices with RI approaches. The overlap is probably largest in the case of hedge funds that are (1) long/short equity funds and (2) have a fundamental, bottom up approach and (3) operate with low leverage. Based on these criteria we would say that certainly not more than 20% of the current total hedge fund market are in essence eligible to be described as Responsible Investing.
- We do not consider that shorting is antithetical to Responsible Investing. What makes shorting unacceptable in our view is when it is used in efforts to distort markets or when shorting leads to cumulative, self-fulfilling prophecy-like effects that can be damaging to firms, capital markets and the economy at large. For shorting to fulfil its potential as a tool in advancing Responsible Investing, investors should embrace and promote shorting as a part of their ESG agenda and encourage others to join in shorting the same companies.

\$188bn was invested in hedge funds by PRI signatories at the end of 2009

Strong growth from a low base

There is no doubt in our view that interest in hedge fund investing has grown within the RI community over the last couple of years. According to the PRI's 2010 progress report, PRI signatories had \$188bn invested in hedge funds at the end of 2009. Similar to other alternative classes, the low correlation with conventional investments and the expectation of a premium return are the drivers behind their engagement, together with the absolute return philosophy the hedge fund industry promoted (empirically 'truncated downside risk' describes better what was actually delivered, as the following table shows).

Portfolio diversification by hedge funds – low correlation with conventional equity market indices and truncation of downside risk

	Dow Jones Credit Suisse Hedge Fund Index (\$)*	S&P 500 (\$)	Dow Jones World Index (\$)
Average monthly return	0.0078	0.0076	0.0052
Best/worst monthly return (%)	8.53/-7.55	9.78/-16.79	11.77/-19.96
Sharpe ratio	0.79	0.31	0.11
Correlation coefficient	1.00	0.56	0.61

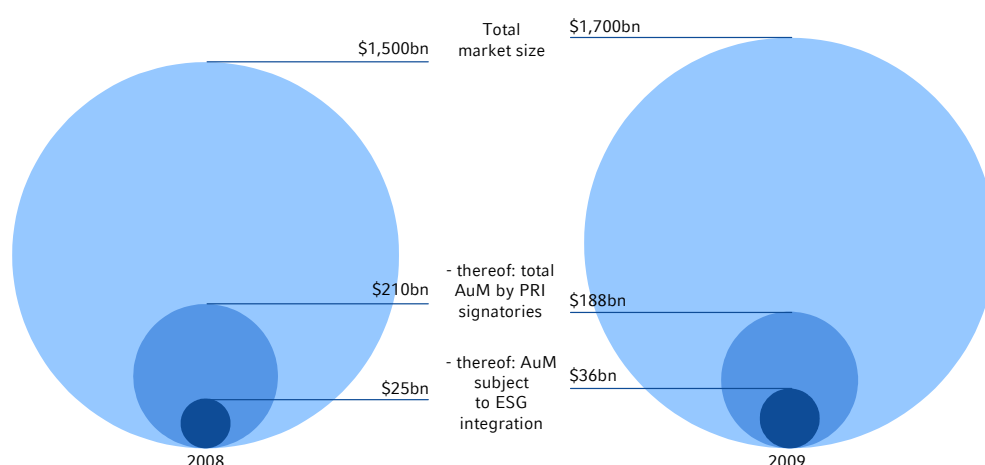
* this is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts; the index uses the Credit Suisse Hedge Fund Database, which tracks approximately 8,000 funds and consists only of funds with a minimum of \$50m under management; time period is from January 1994 to January 2011

Source Swiss Re, February 2011

A minimum of 2.1% of the total market was subject to ESG integration at the end of 2009

As is the case with other alternative investments, our impression is that the decision to invest was made first and thereafter investors began to extend their RI policies to the new field of activity. Of the above mentioned \$188bn, 'only' \$36bn was subject to ESG integration (19.1%).⁸¹ Comparing this with the total hedge fund market size, which amounted to an estimated \$1,700bn, PRI signatories made up 11.1% of the total market and 2.1% of the total market was subject to ESG integration by PRI signatories. The following chart summarises the market situation based on the numbers taken from the PRI survey.

Hedge fund investments by PRI signatories*



* internally and actively managed assets only

Source UN PRI, 2010

⁸¹ However, there are signs of a lot of positive momentum, as demonstrated by the increase in the volume of assets subject to ESG integration from \$25bn (12%) the year before. So one could say there is strong growth from a low base. The growing interest in the 'Responsible Investing and hedge funds'-topic is also reflected in the increasing coverage of related issues at conference events. In March 2010, for example, the 'Green Trading Summit' in New York featured a panel discussion about 'how green hedge funds execute their strategies' in which leading managers from Passport Capital, PCE Investors and CF-Partners, among others, participated.

The 2.1% market penetration is an estimate of the lower bound only, as not all investors that have integrated ESG into their hedge fund engagement are necessarily signatories of the PRI. However, we believe that one should not expect the actual value to be much higher than this. We estimate this number to jump to \$60bn by the end of 2011 which would correspond to around 3% of the estimated total hedge fund market size. When looking at these quite impressive numbers, one should not forget that they do not tell us anything about the quality of integration yet.

Hedge funds and Responsible Investing – a fundamental dissonance?⁸²

Is investing in hedge funds not antithetical to sustainable or Responsible Investing? Are hedge funds not biased towards short-term considerations? Does hedge fund activism not frequently destroy firm value by distracting managers from long-term projects? Are hedge funds not distorting market prices with investment practices such as shorting or leveraging? Do they not stand for seeing the market primarily as a zero-sum game and hence have the objective of benefiting from the failure of others? Are they not known for the use of trend-following momentum-based strategies? Do they not set the wrong incentives for corporate managers with their focus on short-term performance? Doesn't this lead to myopic decision making to the detriment of the bigger picture and the long-term viability of a corporation? We could continue with this type of question for quite a while. The list of questions shows that one can expect a lot of scepticism and maybe also cynicism when putting hedge funds and Responsible Investing together in one bag. In addition, anecdotal evidence lends support to each of the critical points reflected in the questions listed above. However, we argue below that there are many aspects within the typical investment approaches of the hedge fund industry that are consistent with RI philosophies and techniques and may even help to implement them successfully (e.g. by adding more discipline and rigour to screening and decision-making processes). In our view, it is possible successfully to integrate RI criteria in a typical hedge fund strategy but certainly not in all of them.⁸³ Before we dive more deeply into the arguments that support this claim, we briefly draw attention to two more technical aspects of the topic.

First, it is no big secret that the hedge fund industry is notoriously reluctant to provide information about specific strategies and investment practices beyond a limited set of trusted peers. More or less, the industry can be considered a black box. For example, we were unable to find any information about RI practices and/or ESG integration on the homepages of almost all notable hedge fund managers we looked at. The list of funds we checked includes Bridgewater Associates, D.E. Shaw Group, Paulson & Co., Och-Ziff Capital Management, Farallon Capital Management, Renaissance Technologies, Harbinger Capital Partners, Citadel, Fortress Investment Group, GLG Partners, Highbridge Capital Management, Man Group, Marshall Wace, SAC Capital Advisors, Soros Fund Management (Quantum Group of funds) and The Children's Investment Fund Management (TCI). None of these funds is a signatory of the PRI yet. Sparse evidence of RI thinking was found at Och-Ziff Capital Management (reference is given to long-term value creation but not explicitly to Responsible Investing or ESG) and Fortress

⁸² Some ideas in our note have been inspired by a paper by Jed Emerson ('Beyond good versus evil', December 2009).

⁸³ There are five main strategy groups that can be distinguished. They are based on the investment style and have their own risk and return characteristics: (1) global macro – these funds attempt to anticipate global macroeconomic events, generally using all markets and instruments to generate a return; (2) directional, i.e. hedged investments with exposure to the equity market (in particular long/short equity); (3) event driven, e.g. exploiting pricing inefficiencies caused by anticipated specific corporate events; (4) relative value, i.e. exploiting pricing inefficiencies between related assets that are mispriced; and (5) miscellaneous, e.g. long-only absolute return funds (exclude short selling but allow derivatives).

A lot of scepticism is present when hedge funds and Responsible Investing are put in one basket

The hedge fund industry – a black box

Investment Group (the firm points to its efforts with regard to community engagement; this, however, is to be seen as a corporate citizenship activity; no reference is made to integrating ESG factors in the investment process).⁸⁴

Our impression is that only a few hedge funds are taking ESG factors and/or RI principles systematically into account

GLG, which was acquired by the Man Group in 2010, seeks to capitalise on investment opportunities arising from environmental concerns, such as climate change. Interestingly, the Man Group (including all wholly owned regulated subsidiaries) explains in a document that it 'broadly supports the aims and principles' of the UK Stewardship Code but has decided not to commit to adhering to it. Instead, Man claims in very general terms that it considers a variety of factors, including corporate behaviour, responsibility and governance in its investment decision-making processes. Although we have been unable to gain deep insight into the industry's practices, it is our impression that only a few hedge funds are systematically taking RI criteria or ESG factors into account within their investment processes. We believe this will change significantly, driven by the big institutional investors and signatories of the PRI that have just begun to roll-out RI principles across all of the alternative asset classes they invest in.

Responsible Investing and hedge funds – the bar is set higher

How material are ESG factors really? Their use by hedge funds can be considered a litmus test

The big advantage of the hedge fund industry is that it is sufficiently flexible to adapt to the new requirements put forward by its investment partners and implement RI processes very quickly. This raises a question about why the hedge fund industry has been slower to provide RI-compliant solutions than the traditional investment fund industry. For the latter, incorporating sustainability-related topics has been a way to attract more assets by addressing the mission- and/or fashion-related preferences of private investors. Together with the fact that the share of performance-based fees is much smaller, this explains why the traditional asset management industry has been moving quite aggressively into Responsible Investing, despite a lot of doubt still prevailing among the industry's protagonists with respect to the claim that ESG integration is having a positive impact on financial return and risk.

It's all about performance

The bar for ESG integration to be accepted within the hedge funds domain – apart from specific mandates from RI clientele – is raised higher, as the income of the funds is driven mainly by performance-based fees. Hence, fund managers will focus only on those factors and methodologies that help to boost returns. Turning this argument around, one can say that the best indicator for the relevance of ESG factors to financial risk and return would be the adoption of integration approaches by the hedge fund industry (due to the black box character, we do not really know to what degree this might already have happened). One reason to be optimistic in this regard is the lesson learnt from corporate governance related topics, which slowly grew in importance during the 1990s and are now widely accepted within the hedge fund industry. In our view, it may well be that we see a similar development emerging related to taking a broader ESG agenda into account.

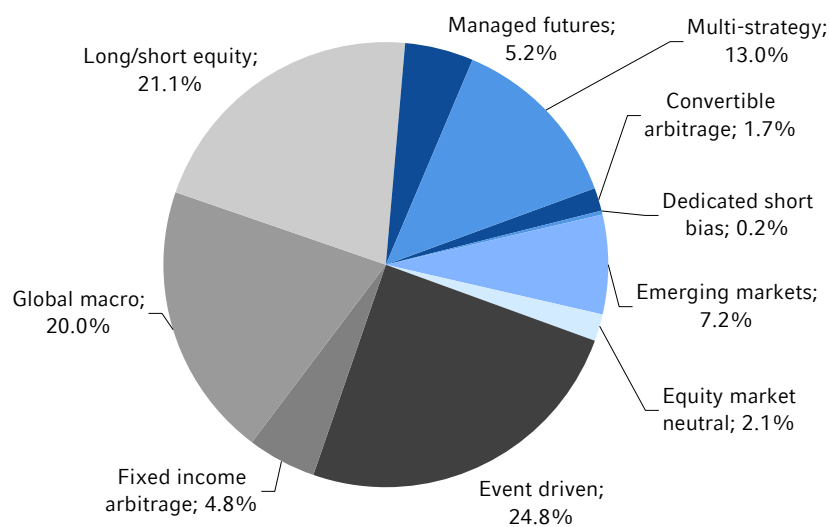
⁸⁴ Quite interestingly, we were also unable to find any indication of the relevance of the Responsible Investing/ESG topic for the industry, when looking at the homepages of the Hedge Fund Association (HFA), the Hedge Fund Group (HFG) – a network of hedge fund industry professionals – or the Alternative Investment Management Association (AIMA). This stands in clear contrast to our findings in the PE industry.

Not all types of hedge fund strategy are equally well suited to ESG integration

Integration of ESG factors depends on hedge fund type

When talking about hedge funds as an alternative asset class, it is important to note that this asset class is quite a mixed bag as the following chart shows and that not all types of hedge fund strategy are equally well suited to the integration of ESG factors and/or – more generally speaking – RI approaches (philosophies, methodologies).

Type of hedge fund/hedge fund strategy distribution within the Dow Jones Credit Suisse Hedge Fund Index



Source Dow Jones/Credit Suisse, February 2011

Overlap with concepts, methodologies and practices used in RI approaches

For us, an important indicator (if not the decisive one) for the eligibility of a hedge fund strategy type is the degree to which it shares the same type of concepts, methodologies and practices with RI approaches. To keep things as simple as possible, we have listed equity in mind only when saying that the overlap is probably largest in the case of hedge funds with the following characteristics.

- Long/short equity funds.
- A fundamental bottom-up approach.
- Low leverage.

No more than 20% of the market is principally eligible for RI approaches

Taking the numbers in the chart above as guidance, not more than 20% of the current total hedge fund market is principally eligible to Responsible Investing according to these criteria. This is not set in stone, however, as the demands of the RI community could, for example, create a new market segment or cause the relative market shares to shift significantly.

Fundamental investing versus technical investing

To explain why we choose the criteria above, we first look at the commonality between Responsible Investing and fundamental investing. We prefer the latter relative to the technical investing approach, because it is inherently longer term. To clarify, when we talk about fundamental investing, we do not mean short-term-oriented strategies that focus on fundamental newsflow (e.g. event-driven strategies or arbitrage-type strategies). We would rather describe such strategies as 'idea-driven investing' to make it clear that for these investments timing is very important as well as leveraging. Neither is consistent, in our view, with the fundamentals of Responsible Investing. Responsible Investing is

about consistent value creation, not about picking the single right moment for an investment. It is not about betting on single ideas with a high leverage, as this implies that investment managers could be incentivised to benefit from market distortions they have created themselves.

Technical hedge funds are not an option from an RI perspective

It follows that 'technical hedge funds' are not an option from an RI perspective. Usually these funds make use of mathematical algorithms to identify short-term opportunities in capital markets and then financially leverage these to enhance their investment returns. The use of technical trading algorithms in general bears the risk of creating market distortions, e.g. because it supports herding behaviour among market participants. Technical investing does not require investment managers to have deep knowledge about their investments, which is in sharp conflict with the fundamentals of Responsible Investing.

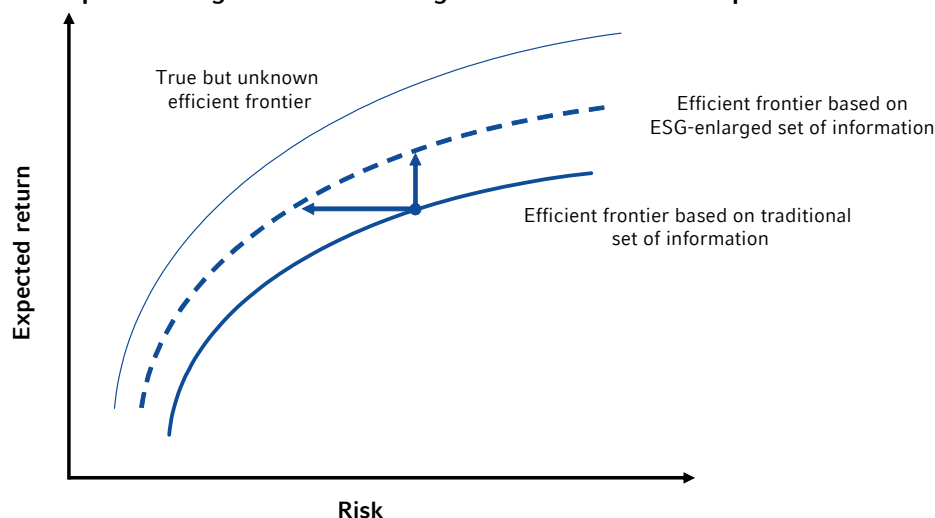
Having 'deep knowledge' about an investment is the common characteristic

The success of fundamental investing, on the other hand, depends on knowing 'everything' about a company (remember we talk about listed equity only) that could be relevant to its valuation. This 'deep knowledge' about a company also means looking beyond the numbers, to identify aspects of both risk and opportunity that are not readily apparent to others. Hedge funds with a fundamental approach strive to identify or anticipate catalysts of change. In addition, most of these value drivers do not show up in a company's balance sheet. Many off-balance sheet intangibles are correlated with ESG factors, so that integrating them into investment decisions together with political, societal and regulatory factors that affect how those environmental and social issues come to be priced in the market can be considered an enhancement of traditional mainstream approaches. The effect can be visualised as an upward shift of the efficient frontier, for example (see chart below).

A conditional 'yes' hedge fund investing

Enhanced analytics, i.e. identifying factors not yet priced by the markets and using unconventional methods to do that, describes exactly what hedge funds are striving to achieve (albeit not necessarily by taking ESG factors into account). In conclusion, we would thus say 'yes' to hedge fund investing when it has an inherently fundamental approach and exploits all its unconventional qualities that distinguish the industry from mainstream index-linked investment management.

The 'deep knowledge' effect – shifting the efficient frontier upwards⁸⁵



Source WestLB Research

Shorting 'bad' companies within 'good' industries can help prevent price bubbles occurring

Taking short positions – not necessarily antithetical to RI

Another important aspect for Responsible Investing when considering investing in hedge funds is the question of how to deal with the common practice of taking short positions, i.e. betting on falling market prices. In the public eye, this practice is often framed in strictly negative terms, with investors who short being portrayed as causing market distortions by driving companies' valuations down, creating excess volatility and benefiting from failure. On the other hand, shorting may also be framed positively from an RI perspective. For example, it can be interpreted as a signal to markets that an industry or company within an industry group is at risk – either as a result of poor corporate management practices, engagement in 'unsustainable activities' or simply due to larger market trends such as having a business ill-suited to the demands of an increasingly carbon-constrained planet. It may also be seen as a counterbalance to irrational exuberances that drive up market prices far beyond fundamental values. The positive attitudes and biased perceptions of investors may lead to the creation of price bubbles within some of the industries targeted by the RI industry due to their link to the main sustainability topics such as climate change.⁸⁶ The point now is that when bubbles burst this tends to have an adverse effect not only on the 'bad' companies (those that saw their market values rising despite their poor management quality, e.g. not considering ESG factors) but also on the good companies. Shorting 'bad' companies within 'good' industries can help prevent price bubbles emerging and avoid all the negative external effects a bursting bubble would have.

Shorting is only unacceptable from an RI perspective when used in an effort to distort markets

By taking this type of impact into account, we consider shorting not to be antithetical to Responsible Investing. What makes shorting unacceptable in our view is when it is used in an effort to distort markets or when shorting leads to cumulative, self-fulfilling prophecy-like effects that can be damaging to firms, capital markets and the economy at large. For shorting to fulfil its potential as a tool in advancing Responsible Investing, investors should embrace and promote shorting as a part of their ESG agenda and

⁸⁵ The chart is taken from our document 'In search of alpha – integrating ESG with value and growth' (November 2008). An example of how we enhance our analyses of companies by integrating ESG factors is delivered by our Siemens study 'ESG – the link to competitive advantage' (July 2010). The five-level concept we have introduced therein is shown in the chart on p. 111 in the Appendix.

⁸⁶ For a discussion of Behavioural Finance in the context of Responsible Investing, see p. 93 and the following.

encourage others to join in shorting the same companies. It remains unclear to us, however, what effect the adoption of an active shorting policy has on the role of an investor as an active shareholder in general. First, it is clear that the shorting of shares of a particular company means that one is usually deprived of any active ownership opportunities. From an RI perspective it might make sense to operate with a derivative overlay (see p. 103 for a deeper discussion) and to remain invested in the underlying shares (which would imply the acceptance of higher management costs). Second, it may be difficult to explain why an investor promotes entering into a constructive dialogue with companies with respect to one part of his portfolio and promotes short-selling when it comes to his hedge fund investments. Clearly, a consistent policy is needed here across all asset classes.

Hedge funds and active ownership

Study has found no evidence of short-termism

The perceived strength and effectiveness of hedge funds in their role as active shareholders may also be seen as an argument for large asset owners to consider investing in this asset class, as engagement has emerged as probably the most popular RI technique among this group of investors. An academic study by Brav/Jiang/Partnoy/Thomas (2008) found that from 2001 to 2006, hedge fund activism produced significant positive abnormal returns of 7-8%, which might be due partly to the fact that hedge funds often acquire large stakes in companies, putting them in a position to influence the decision making of corporate managers. Contrary to the opinion of many, the authors find that most engagements by hedge funds are not hostile. The authors also disagree with the claim that the concerns of hedge funds are biased towards short-term considerations (the median holding period for hedge funds in their study is at least one year). Quite interestingly, no mention is made in the study of activism on behalf of ESG issues, besides the classical corporate governance issues of executive performance and compensation.

The challenges ahead

Opportunity driven integration of single ESG factors is not sufficient in the long run

The challenge for asset owners that consider investing in hedge funds is that many current long/short investment approaches focus on investing in a 'sustainable' market segment (e.g. renewable energy) but do not necessarily take ESG factors into account to ensure the underlying holdings of a fund are themselves truly sustainable.⁸⁷ Another challenge is to make sure that the practice of shorting does not conflict with the underlying philosophy of long-term investing. In practice, long/short hedge funds tend to have a higher turnover than long-only ones, which is due partly to the more frequent setting of stops in the short-book. Consequently, a consensus needs to be brought about between the asset owner and the hedge fund manager on how 'long-term' is actually defined in the context of a long/short strategy. This might differ from the interpretation of long-term in the context of a long-only strategy.

Short-term ESG integration strategies should not be to the detriment of long-term value creation

But what about an avowedly short-term ESG integration approach? From a purely fundamental financial point of view the challenge in this case is not just to identify ESG factors that are material to the value of a company. A further necessary condition is that the materiality of these factors is reflected in share-price performance during the time of the 'bet'. The dilemma for the external observer is that it remains a hedge fund's secret

⁸⁷ We found two examples of investment managers that have specialised in long/short equity investment strategies in the cleantech sector: (1) Green Science Partners and (2) Virid Capital Management. Furthermore, we found Ada Investment Management, a New York based hedge fund, that claims to be a 'leader in integrating sustainability drivers with traditional drivers' and prominently places this claim as a USP on its homepage.

to what degree this kind of strategy is already in use and paying-off. Anyway, Responsible Investors need to evaluate carefully whether the short-term focused ESG strategies of the hedge funds they invest in – even if they are successful – are not to the detriment of long-term corporate value creation.

Examples from the limited partner and general partner side

CalPERS: linking fees to long-term performance could be a strong catalyst

Finally, we take a brief look at two examples from the group of PRI signatories. First, on the limited partner side we focus on CalPERS once again in order to gain a consistent picture across all the fund's activities in alternative asset classes. With respect to hedge fund investments, which are bunched together in the fund's \$5.9bn Risk Managed Absolute Returns Strategies (RMARS) programme, we found no specific requirements for integrating RI/ESG criteria within the investment policy document. In 2009 CalPERS announced that it intended to restructure relationships with its hedge fund managers to achieve better alignment of interests, more control of its assets and enhanced transparency ('highest and most timely disclosure of information') in order to better assess, measure and manage the risks within its portfolio. We can imagine that this might also have included specific RI requirements but this is only a speculative guess. Another signal in this direction, however, is that CalPERS also said that fees should be based on long-term rather than short-term performance. As discussed above, the fee structure might indeed be the most powerful tool in aligning interests and introducing RI thinking into the hedge fund industry.

BlackRock: some quite contradictory observations

On the general partner side, we looked at BlackRock as an example. BlackRock is known to be the largest investment manager worldwide. What is not so widely known is that BlackRock is a signatory of the PRI and hence finds itself in the same boat with CalPERS and the like. In 2009, BlackRock announced it would develop an approach to Responsible Investment to guide its investments in hedge funds. What we recently found on the company's homepage is a general 'SRI policy document'. In it BlackRock states that its 'analysis of SRI issues is being extended to Cash Management, Fixed Income, Real Estate and Alternatives to differing degrees and at different paces as client and societal expectations evolve'. The binding force of this statement is very low. It leaves the company basically with all degrees of freedom (from zero integration of ESG to 100% integration). Furthermore, we have been quite surprised to read that BlackRock believes 'that it has not been demonstrated that screening for companies with 'positive' attributes under any one specific SRI policy can be relied upon to produce alpha on a consistent basis, and we have not attempted to devise strategies to do so'. This rips right into the heart of the fundamental convictions the PRI are based on. Our impression gained from the SRI policy document is confirmed when we look at BlackRock's fund of hedge funds investment vehicle 'BARS', which trades on the London Stock Exchange. It invests in a portfolio of investments providing exposure to absolute return strategies, with an emphasis on low beta, absolute returns. Here we found absolutely no hint at the integration of RI/ESG criteria into the investment decision-making process.

Other alternative investments

Here we briefly look at other alternative investment opportunities, in particular at so-called 'catastrophe bonds', also known as cat-bonds, and microfinance (a dedicated asset class for 'Impact Investing', see p. 26 and following).

Key takeaways

- We have no information about the degree to which the typical RI clientele (e.g. pension funds) are in fact engaged in the cat bond market to date (directly or indirectly via fund-of-fund structures). The global cat-bond market is comparatively small with an estimated volume of \$13bn.
- Despite the obvious link to the climate change topic, it is necessary to think about the specific rationale behind investing in cat bonds from an RI or 'impact' perspective. The conclusion, in our view, is anything but unambiguous.
- If investments in cat bonds as an asset class are in principle accepted, investors should take two factors into account when it comes to selecting individual bond issues : (1) the global ESG rating of the bond issuer, i.e. usually of the re-insurance company; (2) the type of catastrophe risk that is addressed by the bond.
- With regard to microfinance investors need to evaluate carefully the true social impact of the programme they are investing in. Many examples from the recent past have shown that the originally intended impact may have been lost sight of by some market players. For example, the industry needs to explain how an average ROE of around 25%, which was achieved in 2008 (i.e. before the financial crisis), can be consistent with the objective of improving the lives of people that are at the bottom of the pyramid.

Catastrophe bonds

Catastrophe bonds are debt securities that transfer a specified set of risks from a reinsurance company to investors. They were created and first used in the mid-1990s in the aftermath of Hurricane Andrew. From the RI perspective, the obvious link to the climate change topic (i.e. increasing damage probabilities and levels) is to the fore. In addition to this, cat-bonds do exhibit some of the favourable features long-term institutional investors have been looking for when diversifying into alternative asset classes, i.e. low correlation with conventional asset classes and a premium return.

Swiss Re cat-bond performance indices – some characteristics*

	Swiss Re Global Index Total Return	Barclays Ba US High Yield	S&P 500
Annualised return (%)	8.63	8.31	0.78
Annualised volatility (%)	2.52	7.13	18.99
Sharpe ratio	2.62	0.88	-0.07
Correlation coefficients	1.00	0.20	0.15

* figures based on the period from January 2002 to December 2010

Source Swiss Re, February 2011

We have no information about the degree to which the typical RI clientele (e.g. pension funds) are in fact engaged in this segment to date (directly or indirectly via fund-of-fund structures). The global cat-bond market is comparatively small, with an estimated volume of \$13bn. For 2011, Munich Re expects an issuance volume of \$5.5-6.0bn.

Despite the link to the climate change topic, it is necessary to think about the specific rationale behind investing in this segment from an RI perspective. It is not a priori clear, for example, how one should evaluate the fact that climate change risks can be

Obvious link to the climate change topic

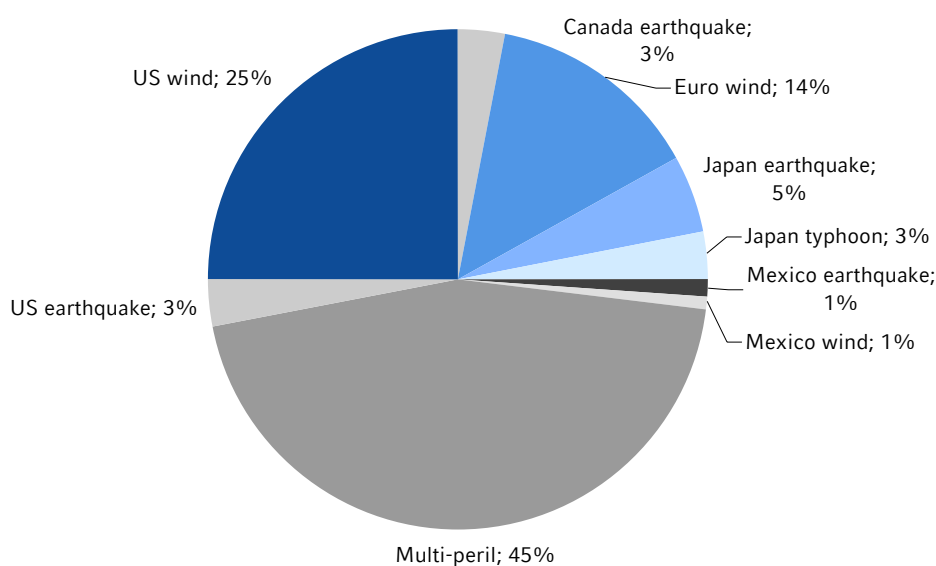
No information about the RI community's engagement

distributed across a larger number of risk takers. This not only reminds us a little of the arguments put forward in favour of the securitisation of subprime mortgage loans but also provokes a question about whether the lowering of ‘climate change insurance costs’, which results from a broadening of the risk-taker base, would not set the incentive to reduce climate change mitigation efforts. If true, it should not be in the interests of Responsible Investors to be engaged in this segment. On the other hand, lower insurance costs also have a social component (affordable insurance against climate risks). The picture would also change if the proceeds of the bond issuance were ring-fenced and invested in climate adaptation and mitigation projects (similar to green bonds).

ESG rating of the bond issuer should be taken into account as well

If investments in cat-bonds as an asset class are principally accepted, based on a sound consideration of the investment’s ‘impact’, investors should take two factors into account when it comes to selecting individual bond issues. First, the global ESG rating of the bond issuer, i.e. usually a reinsurance company, should be incorporated. Second, it should be established exactly what catastrophic risk is addressed by the bond. If the intended impact relates to climate change, for example, it quite obviously makes more sense to invest in so-called ‘hurricane bonds’, rather than in ‘earthquake bonds’. The peril composition of the Swiss Re Global Cat Bond Index is shown in the chart below. Wind has a total share of 43%, while earthquakes make up 12% and the rest is multi-peril (including wind and earthquakes).

Peril distribution within the Swiss Re Global Cat Bond Index



Source Swiss Re, February 2011

Microfinance

Microfinance is one of the most developed areas of the Impact Investment discipline, covering around a quarter of the entire sector according to the GIIN-survey, which might even underestimate its significance due to the respondent structure.

Among the main drivers behind the popularity of the microfinance idea is the fact that the double-bottom-line story it tells has such a convincing charm/and rationale, economically as well as socially, that many believed in it (certainly with an emotional component behind it as well). Another factor that played an important role was that large institutional investors, in particular, increasingly watched out for possibilities to diversify

One of the most important Impact Investment themes

their portfolios after the experiences made in the early years of the new millennium. In particular, they looked for asset classes with a low correlation to traditional asset classes, in particular to listed equities. This is exactly what microfinance has been able to deliver, as a study by Nicolas Krauss and Ingo Walter of New York University (2008) demonstrated. The microfinance institutions (MFIs)⁸⁸ showed significantly less correlation to global market risk than traditional asset classes with respect to all measures they looked at.

Reducing portfolio risk with microfinance debt funds

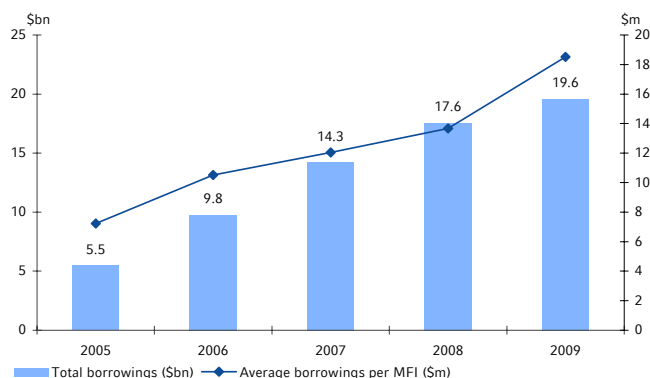
In another study conducted at the University of Liechtenstein, Oliver Oehri and colleagues tested portfolio optimisation scenarios by substituting 5% of a selected asset class with a microfinance debt proxy for the period January 1996 to June 2008. They concluded that adding the microfinance debt fund reduced risk for defensive and balanced portfolios, regardless of the asset class being replaced.

Total market volume amounted to around \$25bn in 2009

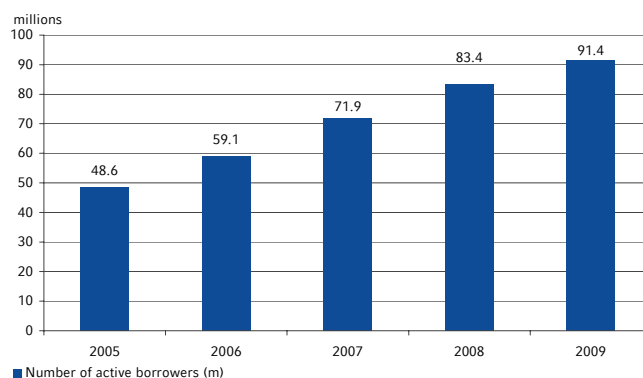
The attractiveness of the basic idea together with the portfolio-diversifying characteristics has led to a proliferation of MFIs across the globe. According to the data provided by the Microfinance Information eXchange ('MIX'), which claims to capture 80% of microfinance institutions globally, the total borrowing volume of 80% of the market amounted to \$19.6bn in 2009, almost quadrupling from 2005, and 91.4m active borrowers (most of them in the South Asia region, see chart on p. 112 in the Appendix.⁸⁹)

Global microfinance market

Borrowings of microfinance institutions



Number of active borrowers



Source MIX, January 2011

In 2010 the microfinance industry came under pressure to explain its real social impact

In 2010 the microfinance industry came under increasing pressure both economically and with respect to the impact the industry actually has on the lives of the people and the communities it targets claiming to have a positive social impact. The problem was, and still is, that the strong growth and attractive returns of the microfinance business model attracted commercial players that may not be committed to the original idea and intent of lending to people and small businesses that are part of the bottom-of-the-pyramid layer – and thus supporting them to find their way out of poverty. As a result, rates of over-indebtedness in some countries (e.g. India) rose to unhealthy levels and the high interest rates that some MFIs charged have led to the now widespread perception that these finance institutions pursue growth at the expense of the financial health of their customer base.

⁸⁸ MFIs provide microfinance loans to end clients. MFIs should be distinguished from microfinance investment vehicles (MIVs), which collect funding from investors and invest in MFIs.

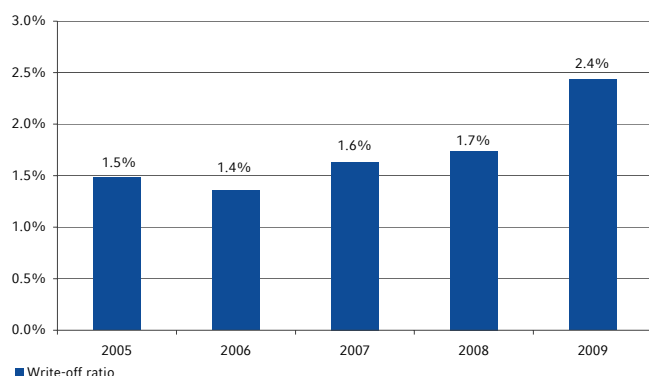
⁸⁹ This number is based on the data provided by a total of 1,917 microfinance institutions (MFIs) in the database.

ROE rose to levels that are not consistent with the intended impact

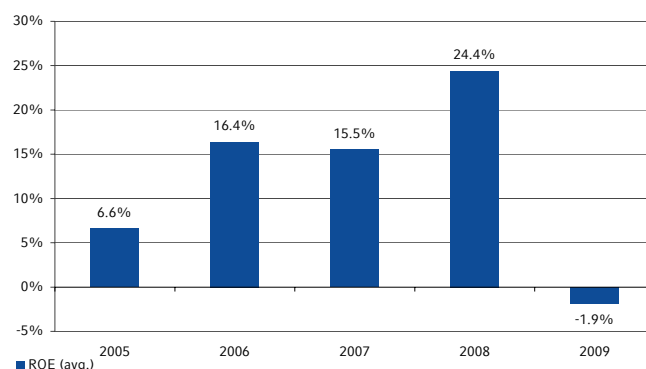
Indeed, the ROE of MFIs rose to levels that appear not to be consistent with the core of the microfinance idea. The 24.4% ROE, which is well above a fair risk-adjusted rate of return, that was observed on average for 2008 signalled that something very fundamental was wrong in this industry. In particular, the evolution of 'snowball-system'-like structures in India (see chart in the Appendix showing an accelerating, above-average growth rate) led to a bubble that predictably had to burst (as reflected by the fall in ROE to -1.9% in 2009 and a sharp increase in the write-off rate to 2.4%, from 1.7% the year before).

Microfinance trends

Write-offs



ROE



Source MIX, January 2011

Engagement of PE investors caused some raised eyebrows

The suspicion that the originally intended social mission of microfinance may have been lost sight of was fuelled by news about traditional PE investors such as Sequoia Capital, which took a stake in India's SKS Microfinance Ltd when the company went public in July 2010. We would, however, argue that the key question is not about specific investor groups such as PE engaging in the microfinance sector or not (in fact, we consider PE as an asset class that should be taken into account by the Responsible Investor, see p. 51 and the following for an in-depth discussion). Rather, it is about the intent of these investor groups and the investment policies and processes they have implemented to achieve their objectives.

MARIA – developing a Multi Asset Responsible Investing Approach

In this part of our research note we develop the main features of a Multi Asset Responsible Investing Approach (MARIA). We start from the perspective of a large asset owner which basically embraces the ‘Genius of the AND’ philosophy (‘strategic awareness’ + ‘having an impact’) that we outlined above. We look very selectively at those issues that either make a difference compared to the traditional investment world or that constitute parallels which we think need to be stressed. We do not claim to be exhaustive in our treatment of the subject, nor do we suggest that our views are set in stone and undisputed. With that in mind, we propose (1) a strategic asset allocation (SAA) for the total portfolio and (2) an ‘enhanced passive’ investment approach (including TAA and asset selection components) for the conventional part of the portfolio.

Key takeaways

- It is surely puzzling that while more than 90% of portfolio return variation is explained by asset allocation, the sole focus of the RI discipline so far has been on asset selection. We consider that it is not only a necessary task but also a potentially very fruitful one to change this in due course.
- ESG integration: investors need to explain in detail how taking ESG information into account helps them to generate ‘alpha’. For example, the use of ESG information could be seen as a means to detect market failures and to benefit from the markets’ error correction processes.
- SAA from an RI perspective needs to take the (non-financial) impact sensitivities of the different asset classes into account. In itself this already implies a shift away from listed equity to Private Equity, for example.
- There is almost no room for RI considerations at the TAA level – at least as far as asset classes are concerned. At best it can be meaningful at the sector level (i.e. for listed equity and corporate bonds).
- With respect to the two basic pillars of our MARIA model, a TAA layer is useful only with regard to the conventional part (70%) of the portfolio. With regard to the alternative asset classes, there often is a fundamental mismatch between the usual investment horizon and the tactical perspective (e.g. in Private Equity).
- For the conventional part of our MARIA model portfolio (70% of the total allocation) we propose an ‘enhanced passive approach’ (EPA) that includes (1) a TAA component (driven by conventional financial/economic considerations only) and (2) a consistent ESG rating-based asset selection process for equities and bonds. We suggest that from a universal owner perspective it might worthwhile thinking about implementing a derivatives overlay structure, which may not only be less costly but also enables the investor to retain all active ownership options (i.e. engagement and voting). We have tested the feasibility of the EPA model by running through a portfolio construction exercise for a total of 17 sub-portfolios.

Putting asset allocation into the spotlight

We start by looking at the specific factors that need to be taken into consideration when developing a prudent policy for Responsible Investment and a sound investment process based on that policy. The focus is on asset allocation rather than on asset selection. In our view the research literature so far has been biased towards asset selection and has also focused mainly on one asset class: equities (see discussion at the beginning of this note). By putting asset allocation into the spotlight, in particular discussing at what points specific RI considerations have an impact on portfolio structures and allocation decisions, we are thus aiming to contribute to filling a gap.

Setting the scene

In a first step we will take a look at the underlying objectives and assumptions of RI-specific investment processes. We will then move on to discuss some of their central components, including research and information processing and final portfolio construction. The investment process in its entirety would be too complex to discuss in a research note such as this, so we limit ourselves to single aspects of it, while at the same time not losing sight of the big picture. We do not claim to be exhaustive in our coverage of the topic. At the end of the day investors/asset owners would be well advised to address all these issues in a written investment policy document.

The introduction of 'double bottom line' target functions has significant consequences at all process levels

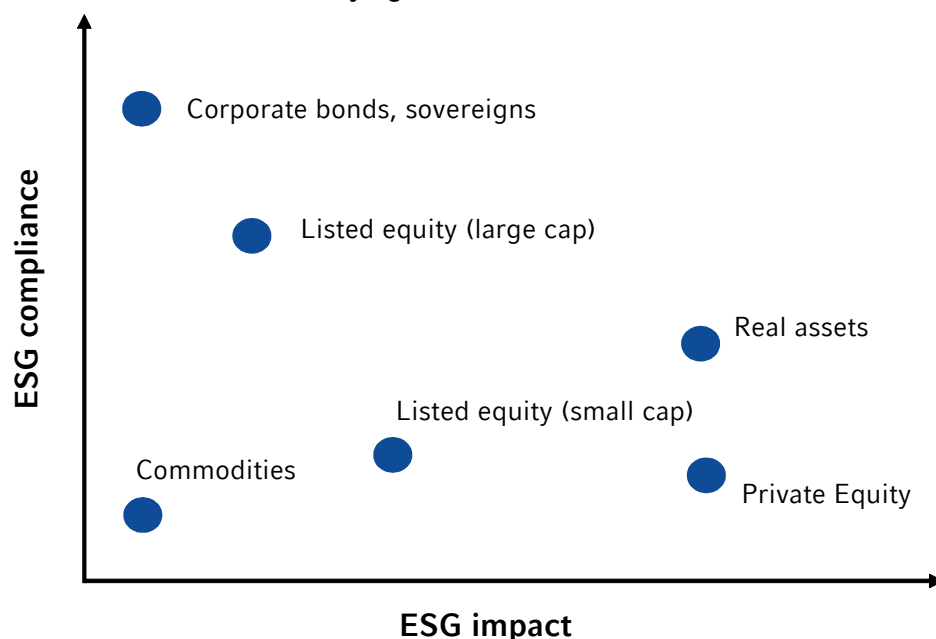
The role of underlying investment motives

The most important parameter in setting up the investment process and determining its character is the underlying motivation or investment objective. Is it just about optimising an investment portfolio with regard to financial risk and return? In this case the investment process would not differ significantly from traditional ones, with the exception of taking ESG factors into account in an effort to enhance the analytical quality of the investment decisions. Or is the target function augmented by non-financial motives, as in 'Impact Investing' which we mentioned earlier (see p. 24)? In the latter case the processes adopted would be more complex than, and deviate significantly from, traditional ones.

Asset classes exhibit distinct 'impact sensitivities'

For example, non-financial motives might call the eligibility of an entire asset class into question, as shown by our discussion of the commodities asset class (see p. 39 and following). The aim to achieve a non-financial impact already implies certain preferences for specific asset classes, with, for example, PE being preferred over public equity. In the following chart we suggest a model of the ability of different asset classes to meet ESG-specific impact objectives or ESG compliance objectives. The latter are more passive in nature and possibly driven by the desire to protect the investor's own reputation.

Asset class selection and underlying investment motives



Source WestLB Research

Non-financial motives are likely to have an influence on the selection of portfolio construction techniques

Non-financial motives are also likely to have an influence on the selection of portfolio construction techniques. For example, an approach based on a best-in-class ESG rating, which we discuss later on in this research note (see p. 102), would certainly not fulfil the requirements of an ethical investor, irrespective of the investor's particular agenda.⁹⁰ Such an approach is purely relative in nature, which has the advantage of mimicking the usual 'modus operandi' in the financial area, but it also assumes that performance scores across very different issues (summarised under the term ESG) can simply be added together. Values, however, tend to be absolute in nature and the idea of compensating for fundamental misbehaviour in one area, e.g. human rights, through an above-average performance in greenhouse-gas emissions, for example, is basically flawed. As a consequence, best-in-class approaches tend not to be suitable for ethical investors, in contrast to approaches that use exclusion criteria.

General view about the functioning of markets – Behavioural Finance and Responsible Investing

Need to explain how the integration of ESG factors enhances the ability to generate 'alpha'

Another aspect that should be examined is the assumption made about how the integration of ESG factors into the investment decision process is actually generating financial and/or non-financial value. With regard to non-financial value, we described in the context of Impact Investing and the need to develop 'theories of change', i.e. how the investment actually translates into social and environmental outcomes/impacts (see p. 29). The same is necessary with regard to the financial side and the idea that ESG information enhances the quality of investment decision-making processes and thereby generates 'alpha' (see also p. 82 on the assumptions of fundamental investing). This statement in itself implies a certain view of how markets function and it is necessary, in our view, to address one's underlying convictions about this within the investment policy document.

⁹⁰ As brokers/financial intermediaries our natural role is limited to taking a more or less neutral position with respect to the value proposition. Hence, our focus is on (1) the integration of ESG factors to enhance the quality of financial analyses or (2) the proposal of objective asset selection processes, e.g. based on the best-in-class principle.

Buzz words: taking ESG into account; long-term; diversification; enhanced performance

The Universities Superannuation Scheme (USS) and its convictions

- **Extract from the Investment Policy:** By encouraging responsible corporate behaviour, the trustee company expects to protect and enhance the value of the fund's investments in the long term. The trustee company therefore requires its fund managers to pay appropriate regard to relevant extra-financial factors including corporate governance, social, ethical and environmental considerations in the selection, retention and realisation of all fund investments.
- **Extract from Investment Beliefs:** The most fundamental belief held by the Investment Committee is that excess return is available to those investors who take a long-term view of investment.
- The Investment Committee believes that diversification is a fundamental and necessary risk control mechanism. Diversification by market and by investment approach is a necessary part of any investment strategy.
- The Investment Committee believes that having regard to Responsible Investment principles in the investment approach employed will in the long term lead to enhanced performance.

Source USS, 2010

Long-term swings away from fundamental value

Bounded rationality, emotions and behavioural biases

At the core of the matter are ESG-related market inefficiencies and the ability of investors to generate 'alpha' based upon their identification. The most prominent example, once again, is climate change. It has been called 'the greatest market failure of all times', which may indeed be true, but of course provokes the question: why has the market not been able to discount the likely impacts of climate change properly? Certainly one could cite the considerable uncertainty and disagreement about effects that will unfold over decades. One could also mention information asymmetries, at least when going back to the early days of climate impact research. Another explanation, and in our view much more pervasive one, is completely independent of the particular issue of climate change. It simply rests on the insights of what one can call the new paradigm of financial theory, since it moved away from the traditional view that economic decision-making processes are driven and governed by completely rational decision makers/agents. Behavioural Economics/Finance has replaced this basic assumption of economic theory with the assumption that decision-making processes are driven by rationality that is 'bounded' in various ways and by irrational biases and emotions. One well-known psychological effect, for example, is that people tend to underweight long-term factors and to overweight short-term factors. This effect may lead to long-term swings away from fundamental value and can explain the success of long-term anti-cyclical investment approaches. Obviously, this effect also becomes apparent for typical sustainable investment topics like climate change, since these topics tend to focus on long-term effects. There are certainly other psychological components and patterns that are relevant here, but will not be discussed in more detail in this note.

Tool to detect market failure and to reduce one's own mistakes and biases

Instead we would like to highlight the implications of Behavioural Finance for Responsible Investing. Now, first of all, as discussed above, enhancing financial analysis by integrating ESG factors can be regarded as a means to (1) detect market failures, i.e. price deviations from the true fundamental value of an asset and (2) as a disciplinary tool to reduce one's own mistakes and biases in investment decision-making processes. However, the flip side of the coin is that attempting to invest responsibly introduces new ways for behavioural biases to find their way into investment decisions. In particular this

applies to non-financially motivated investments, i.e. Impact Investing. This can be sufficiently explained by the mere fact that a second dimension is being added to an investor's target function. The larger the number of factors that influence the decision, the larger is the number of trade-offs to be made by the investor and the larger is the risk that behavioural biases are introduced. In addition, one could also argue that the entire Impact Investment process (see p. 27), beginning with the setting up of social and environmental objectives and ending with impact evaluation, is much more prone to emotional factors than its purely financial counterpart. For example, it is a well known fact that with many investment projects chosen by the Impact Investing community there was overconfidence in defining the targeted impact. Examples of excessive expectations can be found in the microfinance area, which we discussed above (see p. 87).

Our conclusion is that a sound RI process needs to be aware of the insights of Behavioural Finance and pro-actively take them into account, both to increase financial returns and reduce any additional risks that are introduced by incorporating a non-financial dimension in the first place.

Direct investments vs. the use of intermediaries

Trade-off between impact leverage and lower (indirect) agency costs and higher (direct) transaction costs

Besides the very fundamental questions about motives and convictions that need to be answered in order to develop a sound RI process, there are other issues that are more technical in nature but can also have a significant impact on the shape of the process. One of these is the question of whether to invest directly in securities or other types of asset or to invest via external investment managers (i.e. funds) or other types of intermediaries. For the Responsible Investor this question can be even more important than it is for the traditional investor who is focused on financial return and risk only. In particular, for 'Impact Investors' (in the wider sense) there is the question of which legal structure best serves their needs. The decision whether to invest directly or use an intermediary (fund approach) is in the end a function of the impact themes one has defined, the availability of investment opportunities in a specific area, and the desired level of engagement in the investment process (which in turn is a function of the resources available). Obviously, the decision between investing directly or via intermediaries is also influenced by the different degrees and costs of due diligence. When investing in a fund, it is necessary to assess the fund manager's ability to find portfolio companies and projects that fit one's investment objectives. In the case of direct investments the search and due diligence processes need to be done in-house for each single project. Hence, for Impact Investors there is often a trade-off between impact leverage and indirect costs (e.g. lower agency costs) on the one hand and direct costs (i.e. transaction costs) on the other hand. In practice it can be observed that large asset owners diversify not only across asset classes but also in terms of direct investment and investment via intermediaries, conditional on the specific investment or impact theme at hand.

Availability of extra-financial information

ESG reporting as a prerequisite for the feasibility of rating-based investment approaches

One of the main restrictions investors are facing when developing an investment approach from the RI perspective is the limited availability of useful ESG information. In particular, rating-based approaches such as the one we're proposing for the passively managed part of the portfolio, are usually feasible only for publicly listed large cap companies, not for small caps. This is because only the larger companies report on extra-financial issues (usually in CR reports), ideally referring to a reporting standard such as

GRI or EFFAS/DVFA.⁹¹ Large parts of global benchmark indices can be covered using such an approach (see table on p. 104), which explains its popularity within the institutional investment community.

Rating-based approaches can be applied to large parts of the portfolio with low search and information costs

For institutional investors rating-based approaches still play an important role because they help to lower search and information costs and enable them relatively quickly to implement investment processes that take ESG information into account for large parts of the portfolio. The latter is an important aspect for ‘universal owners’. Common rating-based approaches, for example, are ‘enhanced passive’ investing (see p. 21 for a discussion and p. 102 for an implementation example) and ‘two-step integration’. By the latter we mean the practice of screening an asset universe based on extra-financial ratings and combining this in a second distinct step with a traditional financial analysis. This is certainly not what we would ideally understand by ‘integration’, but it can be a useful and sensible heuristic approach. For example, it could be seen as an intermediate solution in the course of a longer development process that has the objective of fully integrating ESG at the end of the day. Alternatively, it could also serve as a permanent solution whenever the focus is on risk management and compliance (see again the chart on p. 92). It is clear, however, that this does not automatically imply full protection against reputational risks, as the BP example last year has demonstrated. Last but not least, ESG ratings can be used as proxies for management quality in fundamental-research-based asset selection processes. In this case the rating is only one factor among many others within the analysis and decision-making process, and the link between the ESG assessment and the investment decision may not be clear and visible.

Limited usefulness of rating-based approaches when it comes to Impact Investing

We have already pointed to another limitation of rating-based approaches above – which is that they are not very effective when it comes to Impact Investing. The influence one can exert through buying and selling shares in the secondary market is limited by nature. This is not only relevant for exclusion-based approaches but also for rating-based best-in-class approaches. Hence, if the investment objective is to have an impact, the use of rating-based approaches only makes sense if used in combination with an engagement approach.

MARIA – the process components

The asset allocation conundrum

Around 90% of portfolio return variation can be attributed to asset allocation – and yet the focus is on asset selection only

Most academic studies agree on the dominance of asset allocation as a determinant for investment returns relative to market timing and asset selection. In probably the most frequently cited research note by Brinson et al (1986), more than 90% of the variation of returns can be attributed to asset allocation.⁹² And yet, the focus of the RI community so far has been on asset selection only. Hence, the question that needs to be urgently addressed going forward is how to integrate RI principles and/or ESG factors at the asset allocation level and to demonstrate the added value of this looking at both dimensions, (i) financial with a long-term/strategic focus and (ii) non-financial with an impact focus.

⁹¹ DVFA: Society of Investment Professionals in Germany; EFFAS: European Federation of Financial Analysts Societies.

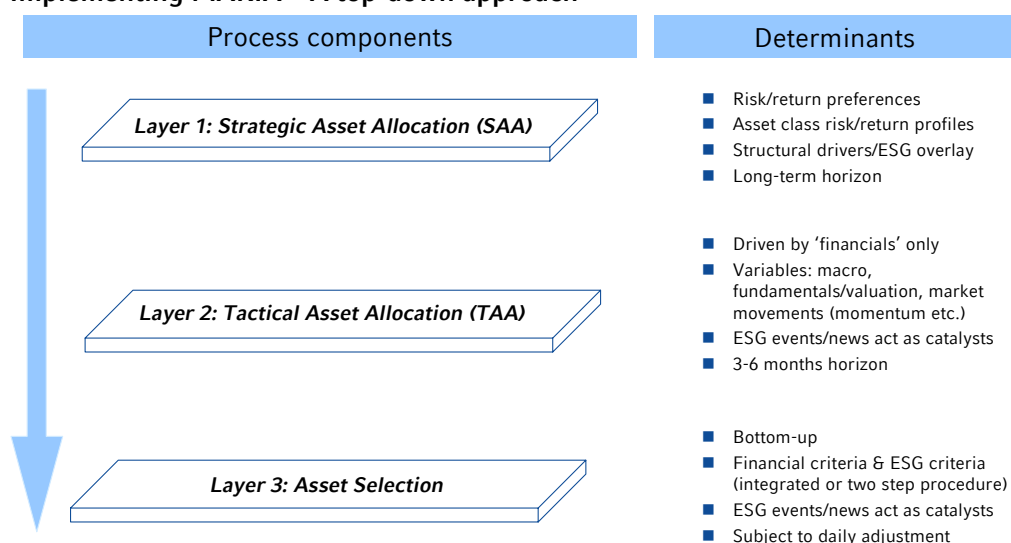
⁹² Some caution with respect to the interpretation of these studies appears to be appropriate, however. In most cases it is suggested that long-run average investment returns can be attributed to asset allocation to such a large degree. But the results of Brinson et al only say that around 90% of the variance of returns can be explained by it. Literature: Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, Determinants of Portfolio Performance, The Financial Analysts Journal, July/August 1986 and Gary P. Brinson, Brian D. Singer, and Gilbert L. Beebower, Determinants of Portfolio Performance II: An Update, The Financial Analysts Journal, 47, 3 (1991).

Natural affinity between ESG and strategic asset allocation

Strategic vs. tactical asset allocation – the role of time-horizon

Asset allocation encompasses the two top layers of any top-down structured investment process, the strategic and the tactical asset allocation. The main distinguishing factor between the two is the time horizon in which the decision-making processes are based. The different time horizons have important implications for the roles, functions, and objectives of the two asset allocation types. This applies in particular when one looks at the topic from an ESG/RI perspective, which we do in the following.

Implementing MARIA – A top-down approach



Source WestLB Research

Rolling annual reviews of the SAA recommended

Since MARIA is designed to be a top-down approach, the process starts with strategic asset allocation (SAA). Decisions that are made at the SAA level basically have a long-term horizon. What 'long-term' means is conditional on the specific asset-class one is talking about. For example, 'long-term' with respect to listed equity may differ from 'long-term' with respect to PE. As discussed previously, PE is a 'designed for exit' asset class, which principally implies a shorter time horizon than listed equity, which is a 'designed to hold' asset class. Empirically, however, the average holding period for PE investments is around five years (see p. 52) and thus may well be longer than the one for listed equity. Another example is investing in hedge funds with a long/short equity strategy. Since the typical average holding period of short-books is shorter than that of long-books, long/short equity strategies typically imply shorter time horizons than conventional long-only strategies. However, even with all the differences that can be noted here, 'long-term' across all parts of the portfolio certainly means that the time horizon should be greater or at least equal to one year. This implies that the SAA, in our view should be reviewed annually, which means that the weights of the individual asset classes can vary over time. It is important, however, to distinguish this variation from the changes that are made on a tactical basis (see below).

SAA needs to be done at the asset owner level

Strategic asset allocation needs to be done at the asset owner level – it cannot be delegated to third-parties. It is about determining an asset class mix that is optimized with respect to the long-term obligations of a fund vis-à-vis its beneficiaries. It should reflect the sum of the asset owner's fundamental convictions and objectives in both dimensions, financial and non-financial. It should also take into account the feasibility of specific approaches to ESG integration, bound always of course by the ESG information

that is actually available for this purpose. In addition to that, the approach to each asset class should be made in the context of sensible and sound ‘theories of change’ that explain how the intended impact is expected to be achieved by the chosen approach. The question of impact should also be considered when it comes to the question of what negative external effects may be caused by the investment activity itself, even if well-intentioned (as in the case of commodities, for example).

The different meanings of strategic weights

The strategic weights we allocate to conventional asset classes on the one hand and to alternative asset classes on the other have slightly different meanings. While the strategic weight of a conventional asset class is the benchmark against which the investor decides to tactically under- or overweight an asset class, the strategic weight of an alternative asset class should be more interpreted as the target weight an investor strives to achieve when moving from a conventional portfolio to a more broadly diversified portfolio including alternative asset classes (i.e. one can talk about a ‘drift towards target weights’ here). It is our understanding that these weights should not play any role in tactical asset allocation processes.

Tactical asset allocation – a task that can be delegated to investment managers

Tactical asset allocation and conventional asset classes

Tactical asset allocation (TAA) is a task that can be delegated to investment managers. It does not need to be performed by asset owners themselves. The time horizon of TAA – by definition – is shorter than that of SAA, typically three to six months. Quite frequently, the TAA is regularly reviewed on a rolling monthly basis. However, it can be adjusted even on a daily basis, conditional on significant market movements, for example. The objective of a TAA is to generate added value by deviating from the strategic allocation based on short-term, mostly market-price driven considerations.

Almost no room for RI considerations – at least not at the asset class level

The basic distinctions between the two asset allocation layers already imply which one of them is better adapted to taking ESG factors or drivers into account – which is a quite frequently raised question. Our answer to that is clear-cut: there is (almost) no room for RI or ESG considerations at the tactical level. Short-term market movements are to the fore and at least at the asset class level there is no strong reason why ESG factors could help to arrive at a decision to relatively over- or underweight a specific asset class against the other.

In a broader interpretation of asset allocation, which includes sector rotation, the picture changes to some degree, however. For example, whenever price movements at the single asset level are triggered by ESG related events, as in the BP case, than it is of course an advantage to have ‘deep knowledge’ of these factors and to draw the ‘right’ conclusions from it at the sector level. It is only in this respect that we consider adjustments to the TAA to make sense from an RI perspective.

How to deal with ESG-related fads and fashions

But what about ESG related fads and fashions that may drive market prices much above fundamental values? Shouldn’t investors tactically underweight the sectors affected, despite their ESG affinity? To respond to this question we would like to point to two aspects: first of all, the ESG-related swings away from fundamental value are usually long-term in nature. Hence, the usefulness of tactical adjustments is limited. Consequences should be drawn primarily at the strategic level. Secondly, it has to be noted that this kind of situation is likely to appear only in listed small-cap equity or in PE. Both, however, are not usually part of the regular, benchmark-oriented tactical sector allocation process anyway and should be considered separately. For listed small-cap

equity, for example, we could imagine that investors enter into net-zero investment positions, going long in the ‘good’ companies and shorting the ‘bad’ ones (see the discussion of long/short equity strategies on p. 83).

Sovereigns: tactical considerations are part of credit-rating driven analysis anyway

Another area that is usually part of TAA is sovereigns. But again, at country level we do not see a strong case for ESG-specific tactical adjustments, since those factors that are considered to be material (i.e. governance quality) are part of the credit-rating logic anyway, and we can see no added value in separating out ESG factors in this respect. This is why we would not accept the current debt crisis in the EU periphery as an example of tactical ESG integration, although ‘G’ factors certainly have contributed to its emergence. All the relevant structural factors that may change the assessment of a country from an ESG perspective are long-term in nature and hence part of the SAA anyway.

Alternative asset classes and tactical considerations

Mismatch between investment horizons and tactical perspective

To make it clear once again: we do not consider the alternative asset classes to be part of the regular tactical asset allocation anyway. Firstly, their investment time horizon simply does not match with the three- to six months horizon of a TAA. Secondly, they are usually not sufficiently liquid to opportunistically flip positions around at such short notice.⁹³ Thirdly, while market timing certainly plays a role here, we don’t see that ESG factors may influence investment/divestment decisions at the asset class level. Tactical considerations may also be inconsistent with the long-term non-financial Impact Investors may want to achieve with VC investments, for example. Furthermore, we see absolutely no tactical ESG rationale for trading let’s say PE against infrastructure or real estate against hedge funds. The decision on how to weight these asset classes relative to each other is a purely strategic one and changes/adjustments in this area should be made within the framework of the regular (e.g. yearly) SAA reviews.

We summarize our main conclusions:

- A standardised, regular, systematic TAA process should only be established for the conventional asset class portion of the portfolio (excluding listed small cap).
- At the asset class level, this TAA process cannot and should not be driven by ESG factors or considerations. There are cases, however, where ESG factors may become drivers of tactical decisions at the sector level.
- With regard to the alternative asset classes we see no role for TAA considerations at the asset class level at all. All allocation decisions should be made at the strategic level.

⁹³ This is of course not the case for the exchange-traded commodity derivatives segment, for example. However, we do not recommend being invested in this asset class anyway from a Responsible Investment perspective (see p. 39 and the following).

MARIA – strategic asset allocation

Looking at an example

The asset class mix of CalPERS – probably quite representative for the industry

The following table shows the asset allocation mix of CalPERS, the California Public Employees' Retirement System with a total fund size of \$215bn. CalPERS belongs to the core group of asset owners that drive the PRI, and stands out regarding the transparency of its investment policies for the different asset classes and the asset class mix in its overall portfolio. For a pension fund asset-liability management (ALM) considerations play an important role in determining the strategic asset allocation mix. For example, this is reflected by the fact that very frequently one can find a separately defined asset class in such portfolios that explicitly targets inflation protection. In the case of CalPERS, the inflation-linked asset class includes commodities (target allocation: 1.5%), inflation-linked bonds (1%), infrastructure investments (1.5%) and forestland (1%).

CalPERS current asset allocation mix by market value and policy target percentages*

Asset class	Market value (\$ bn)	Actual allocation	Target**
Cash equivalents	2.8	1.3%	2.0%
Global fixed income	49.5	23.1%	20.0%
Equity	110.7	51.6%	49.0%
Total 'Traditional' asset classes	163.0	76%	71%
AIM**	29.9	13.9%	14.0%
Real estate	15.3	7.1%	10.0%
Inflation linked ⁹⁴	6.5	3.0%	5.0%
Total 'Alternative' asset classes	51.7	24%	29%
Total fund [†]	214.6	100.0%	100.0%

* as of September 30, 2010; * target allocation effective June 2009; ** AIM: Alternative Investment Management Program (Private Equity) **Source** CalPERS, Dec. 2010

24% already invested in alternative asset classes

First of all, the table above shows how the total capital invested is split between the traditional asset classes and the alternative asset classes. The latter have strongly increased in significance over the last ten years or so (not least as a consequence of the experiences at the beginning of the millennium, i.e. the bursting of the equity market bubble). The bulk of the portfolio, roughly three quarters, however, is still invested in traditional asset classes, i.e. listed equity, corporate bonds, sovereigns, money-market instruments.

Alternative asset classes: drifting towards target weights

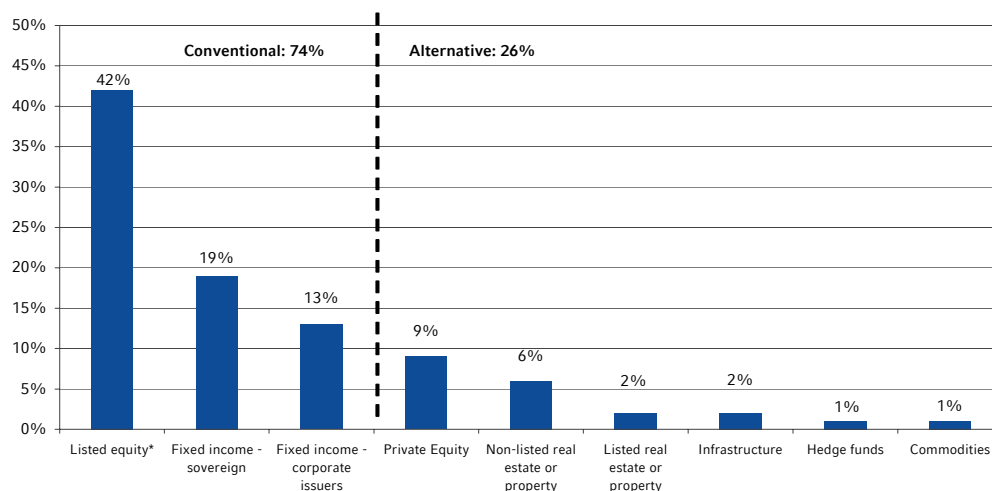
CalPERS explicitly points to the fact that it is following a top-down approach. In particular the fund follows a strategic asset allocation policy that determines the target weight for each asset class. These weights are then 'typically implemented over a period of several years', CalPERS says. This implies a drift towards the target weights over time, rather than pointing to a continuous tactical over-/under-weighting of asset classes.⁹⁵ On the other hand, within the inflation linked programme, the fund gives a percentage band for each of the components, within which the weight of the component can vary (see table on p. 112 in the Appendix). All in all, it is not transparent to what degree a formal tactical asset allocation process is implemented across all asset classes within this

⁹⁴ Besides traditional assets like inflation-linked bonds and commodities, the inflation-linked programme includes non-traditional investments as well. These are bundled into two programmes: the infrastructure programme, which may invest in transportation, energy, natural resources, water, communications, and related projects and the forestland programme, which may invest in timberland and other renewable resources including bio-fuels, pulpwood, and specialty hardwood.

⁹⁵ This is also reflected in CalPERS 'Forestland policy guideline'. It says that whenever the actual allocation falls out of the ranges prescribed by the fund's policy, 'adjustments to correct the actual percentage in order for it to comply with the Policy allocation range shall be implemented on an opportunistic basis over a reasonable time frame.'

institution. The asset allocation mix of CalPERS appears to be quite representative, as the results of the UN PRI progress report for the year 2010 show.⁹⁶

UN PRI progress report 2010 – Breakdown of all respondents' holdings by asset class (average percentage of signatory holdings)



Source UN PRI, 2010

The MARIA model portfolio – two-pillar structure with multiple overlays

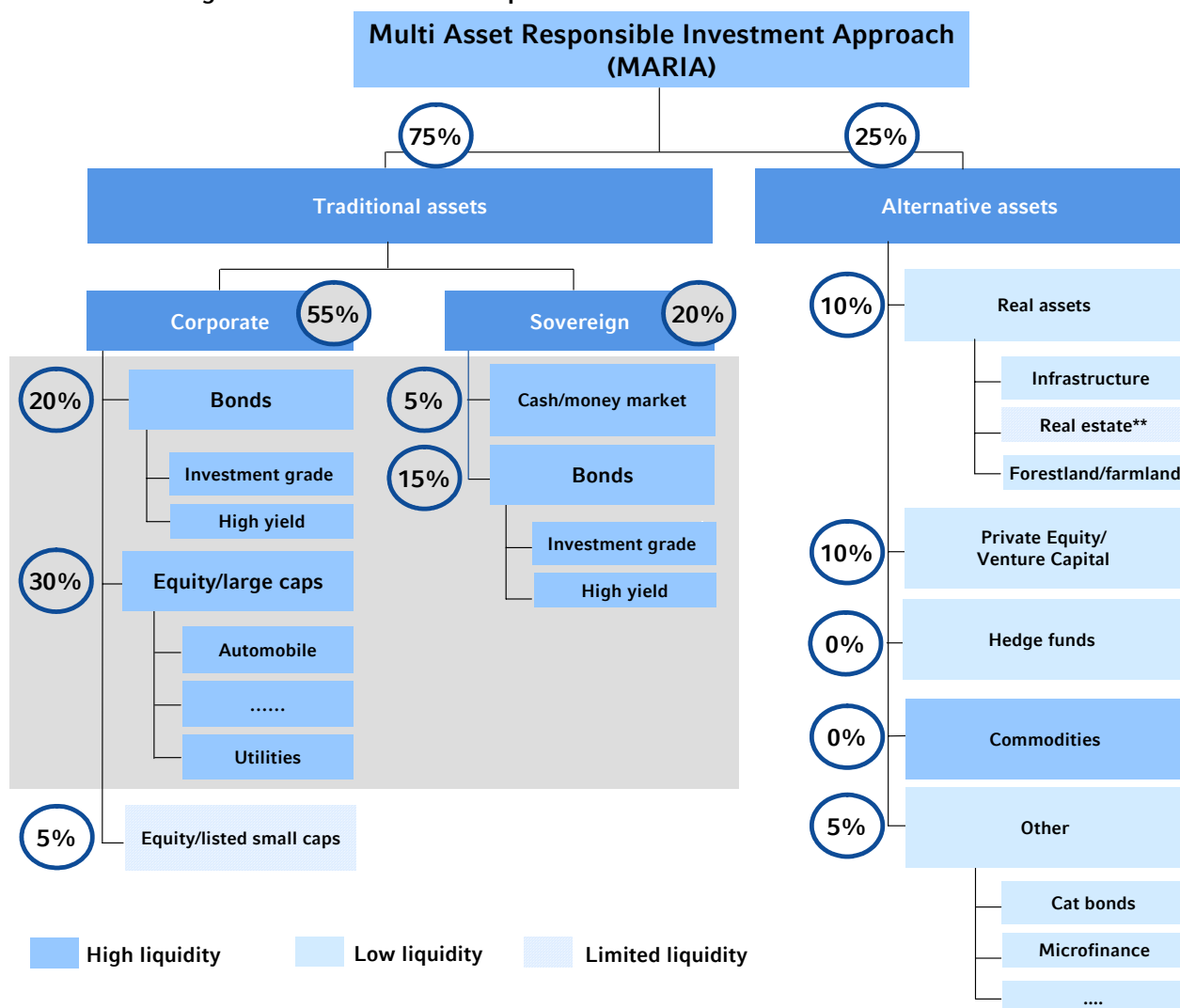
A sensible starting point

The chart below gives an overview of the portfolio structure and the targeted strategic weights for each of the asset classes we have been taking into consideration. Basically we are talking about a two-pillar structure, with the traditional/conventional asset classes on one side and the alternative asset classes on the other side. The weight structure resembles by and large what we found empirically, in particular looking at PRI-signatory averages (see chart above) and individual examples from the asset-owner side (e.g. CalPERS). So, our perspective is that of a typical large asset owner that embraces RI principles. However, by no means do we intend to imply that these weights should be interpreted as being set in stone. Note, for example, that we have set the weights for hedge funds and commodities to zero which is of course debatable.⁹⁷ As stated before, the SAA is driven by the individual financial and non-financial objectives of a fund and cannot be externally prescribed. Nevertheless, we believe that the SAA we propose here is a sensible starting point and is ready to be implemented in practice, in light of the ESG information and methodologies that are currently available.

⁹⁶ There are also examples for multi asset class portfolio structures coming from the RI retail market. As of 30.9.2010 the 'Raiffeisen Fonds – Multi Asset Class Futura', managed by Bank Vontobel, had allocated 45.8% to bonds, 25.1% to equity, 10.0% to liquidity, 5.6% to real estate, and 4.5% to alternative investments. The latter appear to include commodities and hedge fund (fund-of-fund) investments.

⁹⁷ The arguments against investing in commodities have been laid out in detail on p. 39 and following, so we do not repeat them here. The case for the zero weight of hedge funds is less clear-cut. Our decision basically rests on three aspects: (1) hedge funds are strictly speaking not an asset class (their favourable ESG-related qualities may be used within another legal framework equally well); (2) the commonly used practice of shorting is only acceptable from a Responsible Investment perspective under very specific conditions; and (3) despite not being necessarily so, short-term thinking is widely spread in the hedge fund industry. Note that all this does not necessarily imply that hedge funds have to be excluded from SAA considerations, but certainly that they could be excluded for good reason.

MARIA model – strategic asset allocation (SAA)/portfolio structure*



* grey shaded area: 'enhanced passive' approach (ESG rating-based); ** includes non-listed real estate (low liquidity) and REITS (high liquidity)

Source WestLB Research

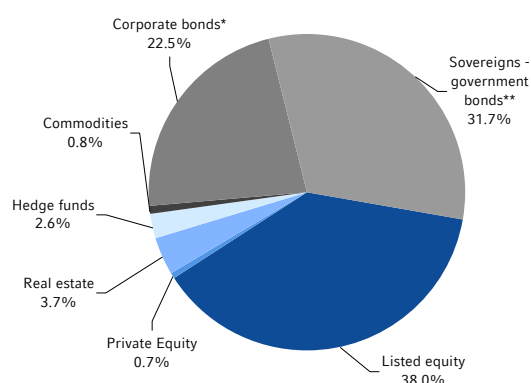
Benchmarking the MARIA portfolio against the 'market portfolio' and a mean-variance (MV) optimal portfolio

To get a feeling for how far away our asset allocation is from the 'market portfolio', we benchmarked it against the results of a recent study by Bekkers/Doeswijk/Lam (2009) who used mean-variance analysis techniques to determine the added value of shifting parts of traditional investment portfolios towards non-traditional assets. The results of this analysis are shown in the charts below.

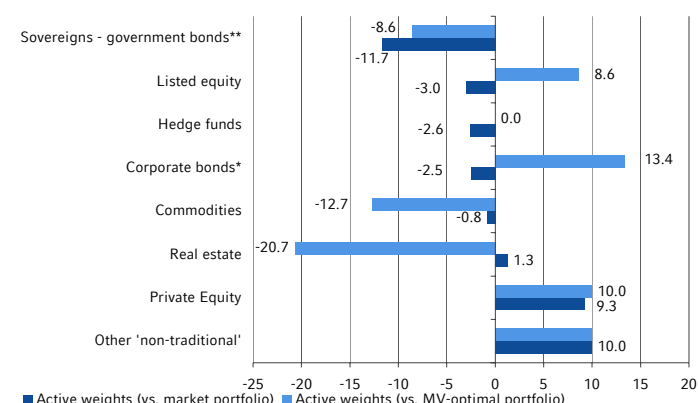
Non-traditional asset classes are clearly overweight in the MARIA portfolio as compared to the market portfolio

Firstly, we compare our MARIA portfolio against the empirically determined market portfolio. The chart on the left-hand side shows that there are five underweight positions in the MARIA portfolio relative to the benchmark, and three overweights. The largest negative active weight is in government bonds (-11.7% points), the largest positive active weight (besides the undefined position in 'others') is in PE (+9.3% points). All in all the non-traditional asset classes are clearly overweight in the MARIA portfolio (+17.2% points) relative to the traditional ones.

Market portfolio



Active weights of MARIA portfolio vis-à-vis the market portfolio and the 'MV-optimal' portfolio (in % points)



* including 'high yield' and investment grade; ** including inflation-linked bonds (market portfolio); including money market instruments

Source Bekkers/Doeswijk/Lam, 2009; WestLB Research

Mean-variance optimization points to an even more aggressive move towards alternatives ...

Secondly, looking at the other benchmark, the mean-variance (MV) optimized portfolio of Bekkers et al. (chart on the right-hand side), it is striking that the shift implied by it goes in the same direction (i.e. a shift towards non-traditional asset classes), but the recommended move is much stronger than the one implied by the MARIA portfolio. The chart above, for example, shows that the underweight in listed equity which the MV-optimized portfolio implies is much stronger than the one implied by MARIA. A large divergence can also be detected when it comes to commodities, for which we have set a zero weight for impact-related reasons, but it is a very attractive asset class when considered from a historical mean-variance perspective.

... which is not followed by the MARIA portfolio due to risk and impact considerations

In conclusion one can say that the results of a classic mean-variance analysis do not in principle contradict the big picture conveyed by MARIA. However, it is also clear that the results are not fully in sync. This is because our approach adds value in two respects. First, it incorporates newly emerging systematic risk (like climate change) that is not reflected in the historical data used by MV analysis. Secondly, it integrates the impact perspective, which is not only necessary in an RI context, but may also serve the goal of improving financial return following the 'Genius of the AND' idea.

Proposing an 'enhanced passive' approach (EPA) for 70% of the portfolio

Tracking the risk and return of market indices with an enhanced ESG profile

The grey shaded area in the MARIA chart covers all conventional asset classes, except listed small-cap equity (a total share of 70%). For this part of the portfolio we propose an 'enhanced passive' approach (EPA) – which basically means, tracking a broad market index with a set of securities that is selected based on Responsible Investing and/or ESG criteria. This approach is already practiced by some PRI signatories, as the example of VicSuper shows (see p. 21). The idea behind this is to deliver the risk / return profile of the market, which is usually targeted by universal owners, but to do it by selectively focusing on those securities that display a preferable ESG profile. The 'price' for having a positive ESG bias in the portfolio, is the tracking error (TE). And the more selective one is with regard to ESG requirements, the higher is the price one pays for this in terms of tracking error (see chart below). The designated methodologies for this type of approach are an ESG rating-based best-in-class selection, the application of ESG exclusion criteria or a hybrid approach that combines both elements (see p. 19).

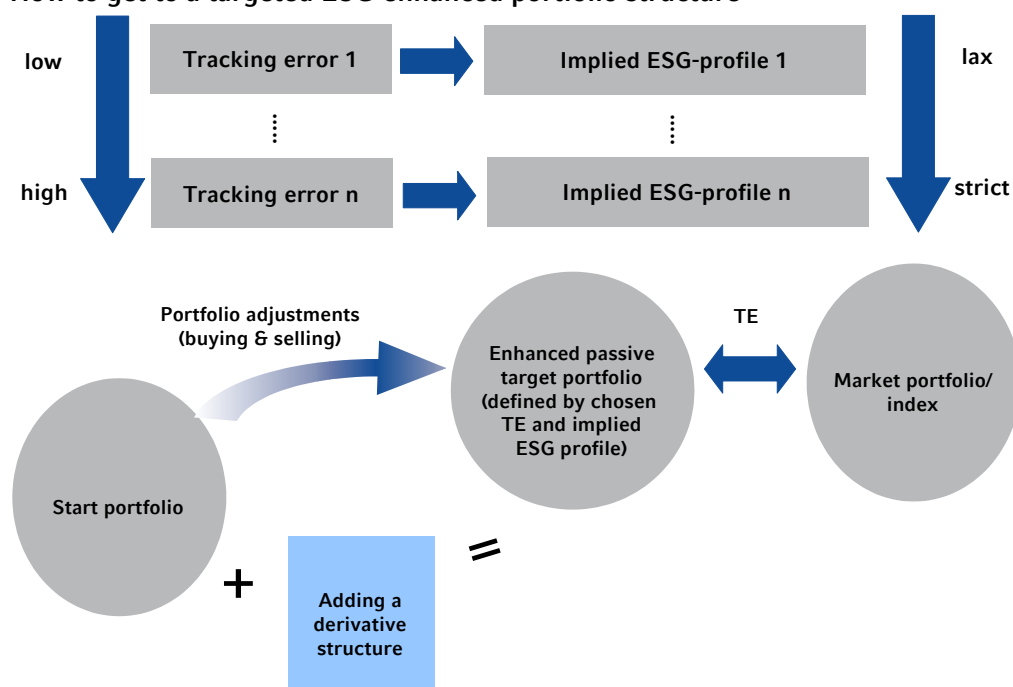
Option one: 'physical' portfolio adjustments

There are basically two ways to arrive at a targeted, ESG-enhanced portfolio structure. The first option is to reshuffle the status quo portfolio for which one can assume, for example, that it is close to a market index (i.e. taking up a 'universal owner' perspective). This means to increase the portfolio weight of securities that offer a favourable ESG profile (e.g. a high extra-financial rating) and to finance this with decreasing portfolio weights of securities that are positioned at the other end of the ESG spectrum. These portfolio adjustments are implemented via a buying and selling of securities in cash markets.

Option two: working with a derivatives overlay ...

The second option is to physically keep the status quo portfolio and achieve the profile of the targeted portfolio (as defined by a combination of TE and implied ESG strictness) by adding a derivative structure to it that mimics the physical portfolio adjustments of option one. In terms of portfolio risk and return these two options are basically equivalent. They differ in two respects, however. Firstly, they certainly have different cost implications. Working with derivative overlay structures might not only be more flexible, but also less costly and more easily to delegate to a third party. Secondly, and more importantly from an RI perspective, are the different implications of the two options with regard to the active ownership issue.

How to get to a targeted ESG-enhanced portfolio structure



Source WestLB Research

... may be preferable from an active shareholder perspective

The big advantage of the derivatives-based solution is that the ownership status can be retained which allows for a continued implementation of the investor's engagement and voting policies. This also means that option two probably is the better choice from the impact perspective in general. At the same time there is no disadvantage with regard to the idea that ESG integration improves forward-looking portfolio risk exposures (see the example of climate risk discussed on p. 106 and the following). And due to all these characteristics the derivatives-based solution appears to have much to recommend it for investors that see themselves as 'universal owners'.

Running through a portfolio construction exercise for 70% of the MARIA portfolio – 17 sub-portfolios had been processed and analysed

To test the feasibility of the EPA idea we have run through a portfolio-constructing exercise that covers all components of the grey-shaded 70% area shown in the MARIA chart on p. 101. A detailed description of our approach and the full results can be found in the companion study 'MARIA – a rating-based RI approach for mixed equity and bond portfolios' (April 2011). The asset selection process for our model portfolios rests on a consistent rating approach for corporates (equities and bonds) and sovereigns. In fixed income we included both investment-grade and non-investment-grade securities. Single assets have been selected based on best-in-class ESG principles at the sector and/or duration class level. We have tested portfolio versions with equal weights and alternatively with market cap weights. Altogether, we have processed 17 sub-portfolios (six equity-, eight corporate bond-, and three sovereign portfolios), four of which are special cases (two are equity-related, and the other two corporate-bond-related) in that the 'enhancement' concepts not only comprise an ESG selection component, but also an indicator-based financial attractiveness component (in the two equity cases, for example, it is dividend stability). The following table gives an overview of the set-up and some results for the remaining 13 standard cases. The risk analysis of our model portfolios has revealed that they display a lower total risk than the benchmark index in most cases (77%), but sometimes suffer from a comparatively high tracking error.

Enhanced passive approach (EPA) for 70% of the portfolio – Set up and results of the portfolio construction exercise⁹⁸

Corporates								
	# of tested portfolios	# of securities in benchmark universe	# of securities with a rating (% of total)	Rating range acc. for pf. construction	# of securities within accepted range (% of total)	# of securities within proposed portfolio	Tracking error	# of pf. with a total risk below benchmark
Global large cap equity	4	1,706	1,706 (100%)	A+ – A-	504 (29.5%)	50	3.06 – 6.50	2 (50%)
Global corporate bonds investment grade – Non-financials	2	4,040	3,384 (83.8%)	A+ – A-	2,171 (53.7%)	60	1.61 – 2.42	2 (100%)
Global corporate bonds investment grade – Financials	2	3,225	2,276 (70.6%)	A+ – A-	1,729 (53.6%)	45	1.96 – 2.69	1 (50%)
Corporate bonds high yield	1	2,323	967 (41.6%)	A+ – A-	372 (16.0%)	71	2.71	1 (100%)
Corporate bonds non-investment grade Emerging Markets	1	110	13 (11.8%)	A+ – B-	6 (5.5%)	6	7.18	1 (100%)
Sovereign								
Investment grade money market (euro bills)	1	97	97 (100%)	A+ – B+	57 (58.8%)	13	0.12	1 (100%)
Investment grade global bond	1	1,141	1,141 (100%)	A+ – A-	272 (23.8%)	64	6.48	1 (100%)
Non-investment grade Emerging Markets	1	162	143 (88.3%)	A+ – C+	100 (61.7%)	49	5.34	1 (100%)

Source WestLB Research

EPA can be delegated en bloc to external investment managers

The advantages of an EPA approach are obvious. First of all, it enables the investor to apply its own RI principles and policies in a consistent manner across a large part of the portfolio, including the choice of the methodology to be used and the type of information that is processed. Secondly, it allows for implementing a coherent tactical asset allocation process. Thirdly, the fact that the approach is well structured and systematic in nature allows investors to delegate it in its entirety to external investment managers and

⁹⁸ For the equity portion we used the MSCI World (Global Large Cap Equity), and for the bond portion we deployed the Merrill Lynch Bond market indices as our benchmark universes.

EPA does not stop at the asset selection level, but also contains an active shareholder component

to benchmark their performance against each other.⁹⁹ And last but not least, the approach we propose should be very cost efficient.

The EPA we're proposing here does not stop at the asset selection level, but also contains an active shareholder component, i.e. a voting and engagement approach that reflects the asset owner's RI principles and policies and is also fully consistent (1) with the applied selection techniques and (2) across the different asset classes. Again, the consolidation of all these functions makes it easier to delegate the implementation of the approach to an external partner.

The main characteristic of EPA is certainly that it is defensive and primarily risk-focused. It not only aims to minimize tracking error, which is a financial risk dimension, but also to minimise non-financial risk based on ESG-rating and exclusion criteria. The objective of 'having an impact' is taking a step back to some degree, although the active shareholder components are in place. The reason why we repeat this here is to distinguish EPA from the approach which we would recommend applying to the rest of the portfolio, i.e. to listed small-cap equity and more importantly to the alternative asset classes.

Alternative asset classes – Active, opportunity-seeking and impact-exerting approach to the fore

Finding the 'Genius of the AND' – focus shifts to opportunity and impact

For the rest of the portfolio (30%), we propose a shift in emphasis from risk to opportunity and impact. This is driven by two factors in the first place. One of them is the lack of available ESG data and accordingly the ratings that are based on them. Hence, an 'enhanced passive' approach is not feasible here. Secondly, it can be expected that impact can be generated in these asset classes with greater leverage and 'alpha' can more easily be found by integrating ESG factors in research and analysis processes (i.e. reflecting the idea of 'deeply knowing' a company, including the off-balance sheet issues). With respect to the impact dimension, it is not only that engagement and voting should be more effective and powerful due to the usually higher share an investor owns. In addition to that, the primary market plays a much more important role here, so that investors have the opportunity to provide capital directly to industries that develop solutions for classic ESG-related challenges such as climate change or access to finance/insurance (i.e. microfinance, micro-insurance). It is in particular with regard to this part of the portfolio and our approach where one can find the 'Genius of the AND'.

Multiple overlays – Avoiding unintended effects

The two parts of our MARIA portfolio need to be co-ordinated – e.g. by identifying common sources of risk

Although quite distinct in nature, the two parts of our approach should not be considered to be completely independent. They need to be coordinated in order to avoid unintended effects such as the emergence of risk clusters at the sector-, country- or thematic level. It may also be helpful to structure the asset classes one looks at according to the more specific financial objectives one is pursuing. One example is the breakdown of asset classes into the four groups – (1) Liquidity; (2) Income and wealth preservation; (3) Capital appreciation/wealth growth and (4) Inflation protection – as proposed in the already cited research note published by the Rockefeller Foundation (see table on p. 28). The function of this exercise is to open the black box and make risk structures more

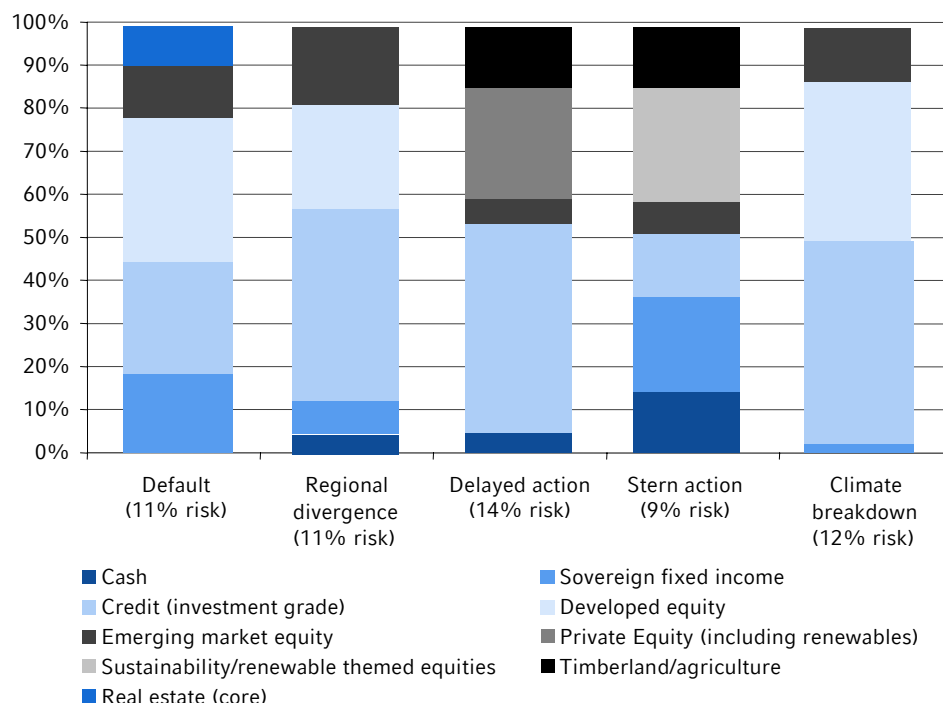
⁹⁹ For the investment management industry this of course implies an enormous challenge. Anecdotally, we do not have the impression that many investment managers are yet ready to meet the requirements that would result from such comprehensive mandates. In turn, however, this means that those managers who have the abilities and the resources to do it, may have an enormous competitive advantage going forward.

relevant. The same idea also drives the exercise to map the ESG-related investment themes onto the different asset classes (which is shown in the same table). However, this is not a tool that can easily be applied equally across the two big portfolio blocks. It is particularly helpful with regard to the non-EPA part of the portfolio (i.e. alternatives and small caps). And here it should not only be utilised as an 'ex-post' analytical tool, but also for investment planning purposes by forcing investors to ask systematically, within which asset class they can pursue their financial and non-financial (i.e. impact-related) objectives best.

Thematically focused strategic asset allocation

Finally, we would like to point to the possibility that our approach allows the entire portfolio (including the EPA part) to be given a tilt towards one or more themes an investor wants or needs to address. An example of outstanding significance is of course climate change once again. One may argue, in particular, that climate change is a systemic (i.e. non-diversifiable) risk that needs to be addressed accordingly and specifically in the strategic asset allocation process (so we are talking about the purely risk/return oriented view we termed 'Strategically Aware Investing'). In a recently published study by Mercer (2011) to which many academics and practitioners contributed, the implications of four different climate change action scenarios for strategic asset allocation are analysed.

Strategic asset allocation reflecting different climate scenarios*



* for the optimization, a nominal rate of return of 7% was targeted. The risk numbers below the scenarios refer to standard deviation of return.

Source Mercer, 2011

The results reflect the different estimated/assumed sensitivities of asset classes vis-à-vis the three climate change factors (technology, impact, and policy).¹⁰⁰

¹⁰⁰ Brief description of the four scenarios analysed: (1) 'Regional divergence': disparate nature of policy responses across the different regions; some show strong leadership, others significantly fall behind; increased market volatility; (2) 'Delayed action': business-as-usual (BAU) continues until 2020, when rapid

Significant implied impact of climate change action scenarios on asset allocation

It can be seen, that the impact on the recommended asset allocation is immense, depending on the scenario one assumes. For example, under the 'Delayed action' and 'Stern action' scenarios, a sizable portion of the total portfolio (up to 40%) is allocated to so-called climate sensitive assets (e.g. timberland/agriculture; PE including renewables). It is important to note here that the effect of the added climate risk dimension does not imply a shift into more conservative, lower risk, lower return asset classes, but diversification into more climate-sensitive asset classes.

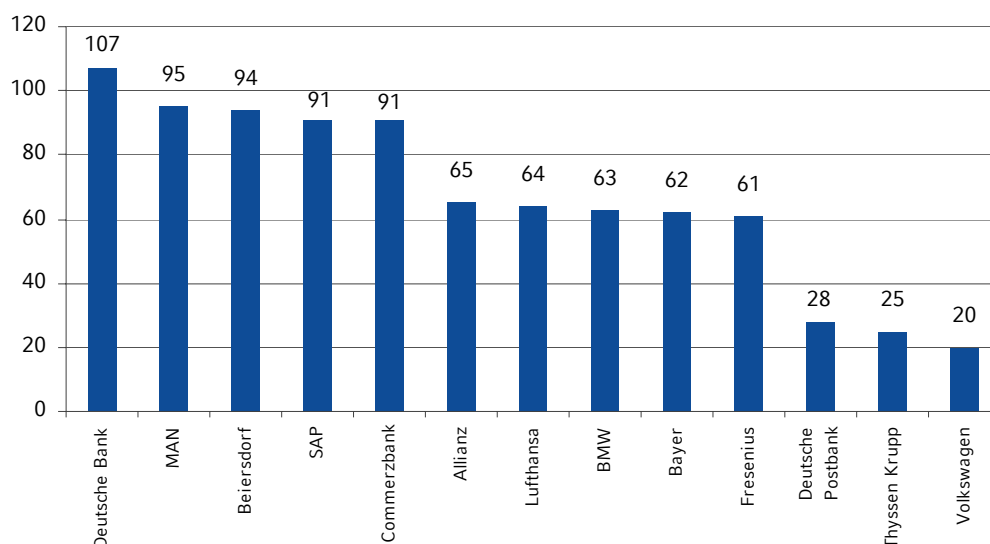
Doubts about how meaningful an asset allocation with 40% in renewables and timberland really is

Taking a look at our MARIA one can certainly say that it implies a scenario that goes beyond Mercer's 'Default' scenario (BAU assumption), since it certainly implies tilts towards climate sensitive assets within PE and alternative asset investments. However, we must say that it is difficult for us to imagine c. 40% of a large asset owner's portfolio being invested in 'timberland' and 'renewables' as suggested by two of the four Mercer scenarios. This does not appear to be a realistic option to us, nor does it appear sensible from a diversification perspective – and from an impact perspective there is the need to take other ESG challenges into consideration as well.

policy measures will be introduced; transformation led by public sector regulation rather than by private sector innovation; (3) 'Stern action': most aggressive scenario both in terms of policy response and private sector innovation; high level of multilateral coordination; (4) 'Climate breakdown': the status quo prevails with respect to policy, business and private consumer behaviour.

Appendix

Funding ratio of selected DAX companies as of 31/12/2008 (in %)



Source: Rauser Towers Perrin, July 2009

Alpha / risk-adjusted excess return (four-factor model)

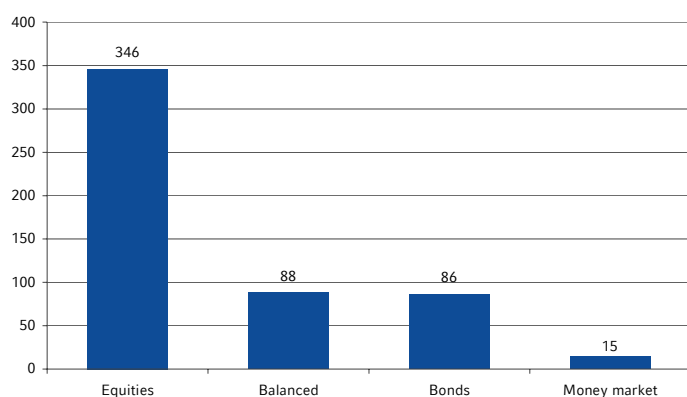
	SRI Conventional bond	SRI Conventional bond	SRI balanced	Conventional balanced
Mean return*	7.05%	6.66%	9.08%	8.17%
Std. dev.	4.13%	3.71%	9.45%	9.92%
Sharpe	0.53	0.48	0.45	0.33
Expense	1.02%	1.17%	1.42%	1.30%

* net return (after costs)

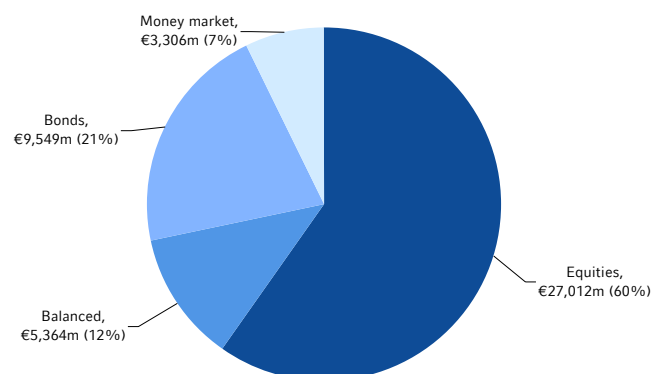
Source: Derwall/Koedijk, 2008

European RI mutual fund market (as at 31 March 2010)

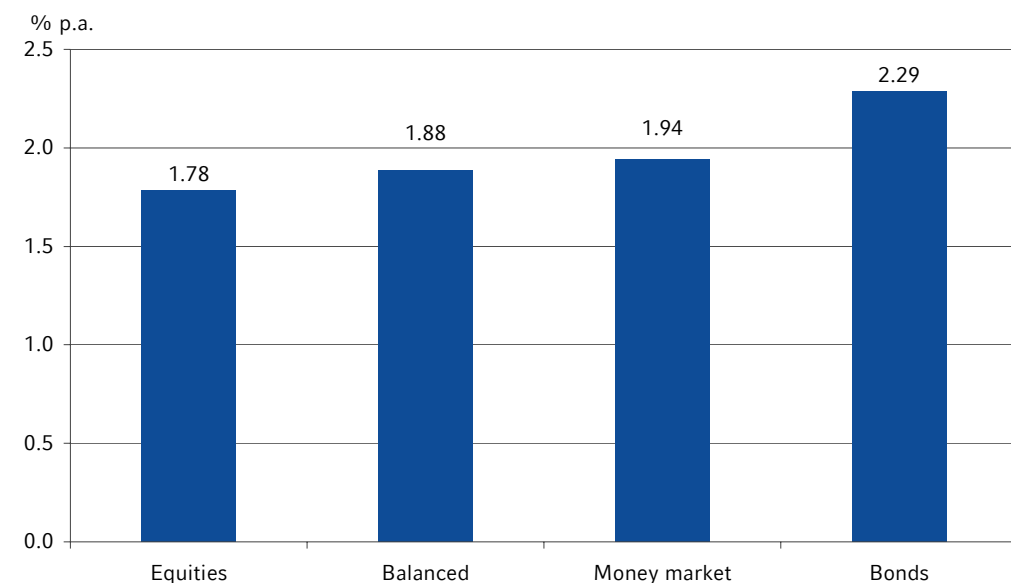
Number of funds



Total net assets



Source: WestLB Research, Morningstar, Eurosif

Active return* (five years) of RI funds in % p.a. (as at 31 March 2010)

* significant at the 5% level

Source WestLB, Eurosif, Morningstar

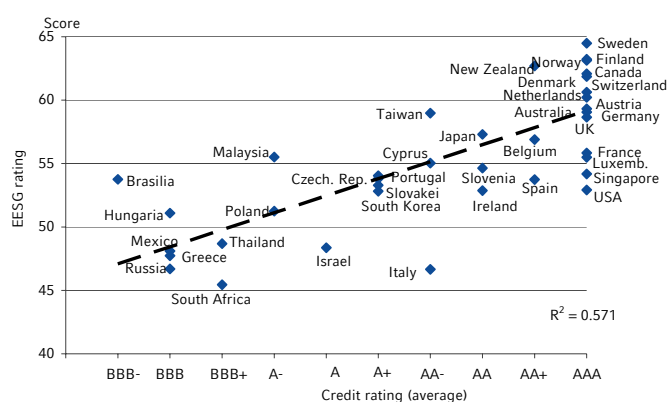
European RI mutual fund market – performance statistics

Category	Average return p.a.				Standard dev. 3 years	No. of funds/ peer group categories	Total net assets (€ m)
	1 year	3 years	5 years	10 years			
Equities							
SRI funds	51.89	-8.04	2.33	-2.90	22.33	346	27,012
Peer group	50.26	-2.52	0.59		22.13	36	
Active return	1.63	-5.22	1.78				
Balanced							
SRI funds	21.47	-1.59	2.33	-0.13	9.52	88	27,012
Peer group	21.11	-0.43	0.48		11.02	9	
Active return	0.36	-1.15	1.88				
Bonds							
SRI funds	11.94	3.52	2.72	3.97	5.31	86	27,012
Peer group	17.58	0.84	0.47		7.49	16	
Active return	-5.64	2.73	2.29				
Money market							
SRI funds	3.97	2.77	2.33	2.07	2.64	15	27,012
Peer group	2.55	0.72	0.42		4.05	3	
Active return	1.42	2.08	1.94				

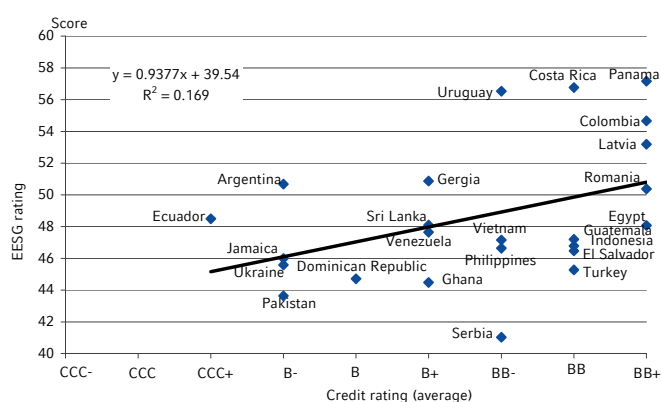
Source WestLB Research, Morningstar, Eurosif

Sovereigns – EESG ratings vs credit ratings*

Investment grade countries



Non-investment grade countries



* For sovereign bonds, the ESG rating turns into an EESG rating, because of the addition of a fourth pillar that reflects economic sustainability considerations (for details, see our companion study 'MARIA – a rating-based RI approach for mixed equity and bond portfolios', April 2011; it also includes the results of a similar correlation analysis for corporate bonds; across all sub-groups the R^2 is at 11.65%, which is significantly lower than for sovereign bonds).

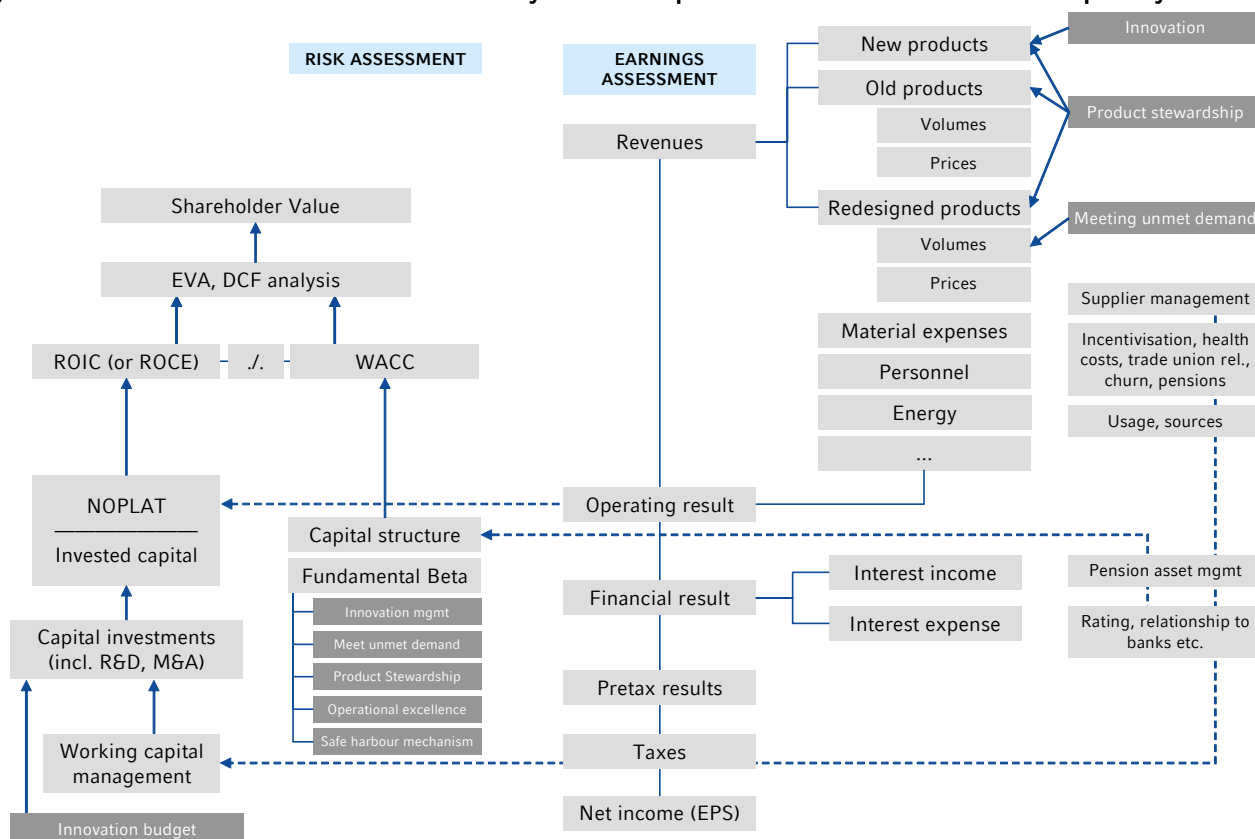
Source WestLB Research, Bloomberg

Unbundling of the business case for sustainability – the five levels of complexity

Complexity	Layer	Concept	Explanation	Addressable risks/opportunities	Examples
Advanced	5	Innovation	Disruptive technologies can help to address emerging scarcity issues of the future. Innovation should help new and existing customers to cope with, for instance, the internalisation of external costs via CO ₂ certificates, for instance.	Achieving a first-mover advantage in markets at an early stage of a growth cycle; winning mindshare and establishing footprint	Carbon capture and storage, more efficient battery technology and alternative electric drive technology, renewable energy technologies
	4	Fulfil unmet demand	This addresses the budget constraint issue in developing markets. It is related to design-to-cost practices and results in effective stripped down versions of existing products.	Opportunities relate to opening up completely new markets; a potential risk could be substitution effects in existing markets	Alstom's transport strategy to compete in emerging markets with 'good enough' products
	3	Product stewardship	We see this as the pro-active flip side of layer 1. Active and regular management of the supply chain can increase reputation and brand appeal.	Companies can turn this into positive product marketing and image campaigns	SonyEricsson's introduction of 'Greenheart' mobile devices
	2	Operational excellence	This is related to the management of input factors (labour, energy, assets etc.) and is reflected in COGS, OPEX and CAPEX lines.	Limit misalignment of incentives with strategy; opportunities relate to margin expansion and higher capital efficiency	GE's initiative to improve employee health resulting in lower medical costs
Basic	1	Safe harbour mechanisms	Having – at least formally – structures and procedures in place that document that the company is abiding by ethical standards of business conduct.	Reputation or PR risks; mitigates risks of being excluded from tender activity	UN Global Compact guidelines, Global Reporting initiatives, Corporate Governance Codes, internal codes of conduct

Source Company, WestLB Research

Integration of ESG information in financial analyses – incorporation of the five levels of complexity



Source WestLB Research

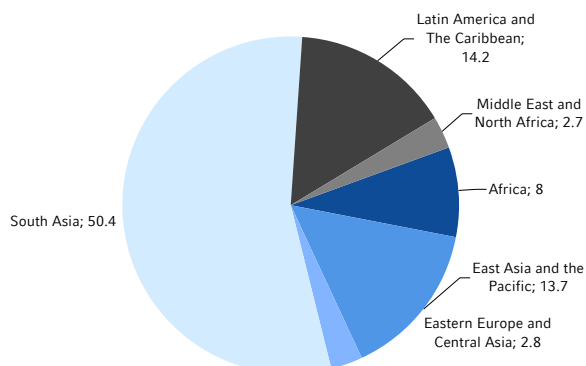
GIIN Investor's Council Members

ACCION	Acumen Fund	The Annie E. Casey Foundation
Armonia (Lunt Family Office)	The Bill and Melinda Gates Foundation	Calvert Foundation
Capricorn Investment Group	Citi Foundation	Deutsche Bank
DOEN Foundation	Equilibrium Capital	The Gatsby Charitable Foundation
Generation Investment Management	Gray Ghost Ventures	IGNIA
J.P. Morgan	Leapfrog Investments	Wolfensohn & Company
Lundin For Africa	Morgan Stanley	Omidyar Network
Packard Foundation	Prudential	The Rockefeller Foundation
Root Capital	Sarona Asset Management	Shorebank/NCIF
Skoll Foundation	SNS Asset Management	TIAA-CREF
Trans-Century	Triodos Investment Management	W.K. Kellogg Foundation

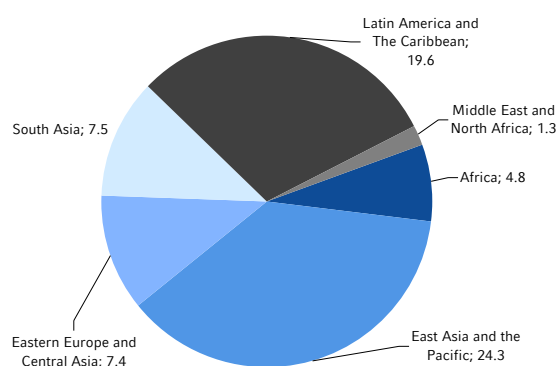
Source GIIN, 2011

Global microfinance market – regional distribution

Number of active borrowers (m)

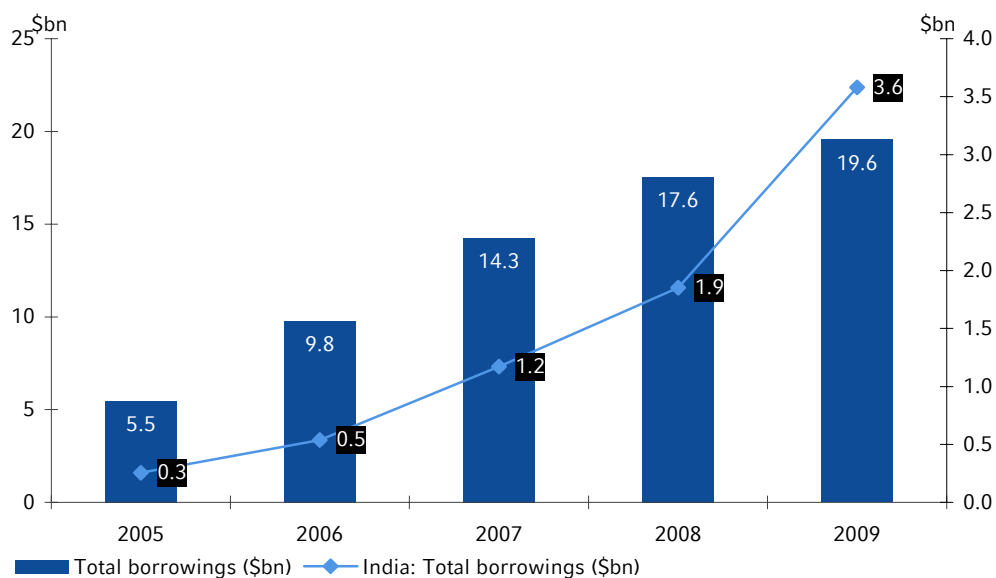


Gross loan portfolio (\$bn)



Source MIX, January 2011

Global microfinance market – special role of India



Source MIX, January 2011

Inflation-linked asset class programme – allocations

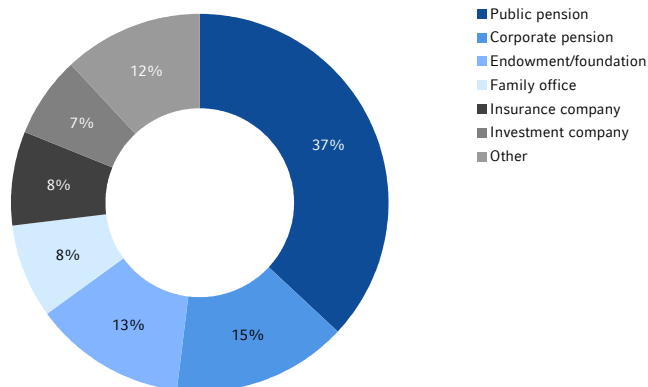
Component	Target*	Range*
Commodities	1.5%	0.50% – 3.00%
Inflation-linked bonds	1.0%	0.50% – 3.00%
Infrastructure	1.5%	0.00% – 3.00%
Forestland	1.0%	0.00% – 2.00%
Inflation-linked asset class – total	5.0%	0.00% – 5.00%

* percentage of the CalPERS Fund

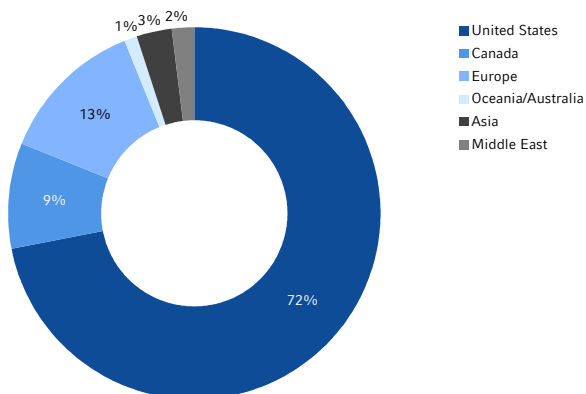
Source CalPERS, December 2010

ILPA membership

... by type

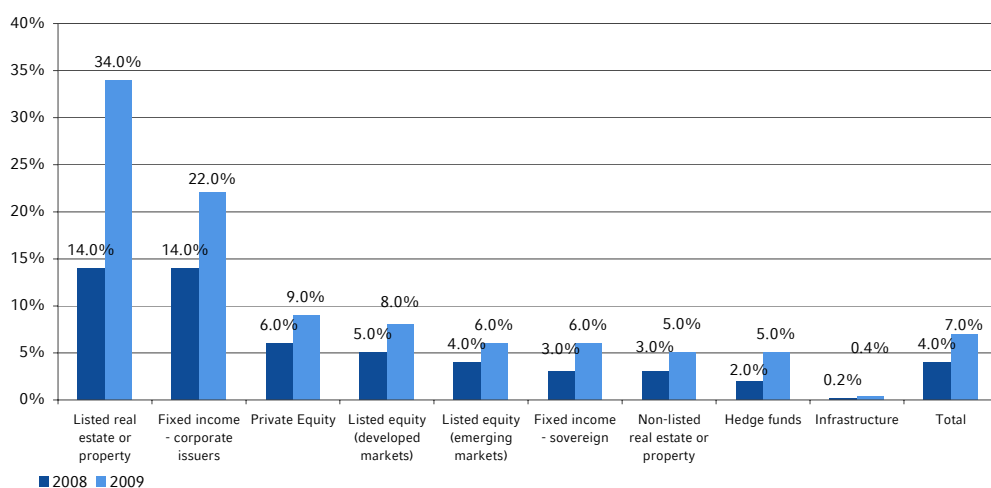


... by region



Source ILPA, 2010

ESG integration for internally active managed AuM relative to total market



Source UN PRI, 2010

Benchmark UBS Bloomberg Constant Maturity Commodity Index (CMCI)

	Commodity	Main exchange*	Contract size; unit/currency
Agricultural (grains, and food & fiber)	Corn	CBOT	5000 bu
	Corn	EURONEXT	50 tons
	Oats	CBOT	5000 bu
	Rough Rice	CBOT	2000 cwt
	Soybeans	CBOT	5000 bu
	Rapeseed	EURONEXT	50 tons
	Soybean Meal	CBOT	100 short tons
	Soybean Oil	CBOT	60,000 lb
	Wheat	CBOT	5000 bu
	Cocoa	NYBOT	10 tons
	Coffee C	NYBOT	37,500 lb
	Cotton No.2	NYBOT	50,000 lb
	Sugar No.11	NYBOT	112,000 lb
	Sugar No.14	NYBOT	112,000 lb
Energy	WTI Crude Oil	NYMEX, ICE	1000 bbl (42,000 U.S. gal)
	Brent Crude	ICE	1000 bbl (42,000 U.S. gal)
	Ethanol	CBOT	29,000 U.S. gal
	Natural Gas	NYMEX	10,000 mmBTU
	Heating Oil	NYMEX	1000 bbl (42,000 U.S. gal)
	Gulf Coast Gasoline	NYMEX	1000 bbl (42,000 U.S. gal)
	RBOB Gasoline (reformulated gasoline blendstock for oxygen blending)	NYMEX	1000 bbl (42,000 U.S. gal)
	Propane	NYMEX	1000 bbl (42,000 U.S. gal)
Precious metals	Gold	NYMEX	troy ounce (\$)
	Platinum	NYMEX	troy ounce (\$)
	Palladium	NYMEX	troy ounce (\$)
	Silver	NYMEX	troy ounce (\$)
Industrial metals	Copper	London Metal Exchange, New	metric ton (\$)
	Lead	London Metal Exchange	metric ton (\$)
	Zinc	London Metal Exchange	metric ton (\$)
	Tin	London Metal Exchange	metric ton (\$)
	Aluminium	London Metal Exchange, New	metric ton (\$)
	Aluminium alloy	London Metal Exchange	metric ton (\$)
	Nickel	London Metal Exchange	metric ton (\$)
	Cobalt	London Metal Exchange	metric ton (\$)
	Molybdenum	London Metal Exchange	metric ton (\$)
	Recycled steel	Rotterdam	metric ton (\$)
Other	Rubber	Singapore Commodity Exchange	1 kg (\$, cents)
	Palm Oil	Bursa Malaysia	1000 kg (Malaysian ringgit)
	Wool	ASX	1 kg (AUD, pence)
	Polypropylene	London Metal Exchange	1000 kg (\$)
	Linear Low Density Polyethylene	London Metal Exchange	1000 kg (\$)

* ICE: IntercontinentalExchange, CBOT: Chicago Board of Trade, NYBOT: New York Board of Trade, NYMEX: New York mercantile Exchange, ASX: Australian Securities Exchange

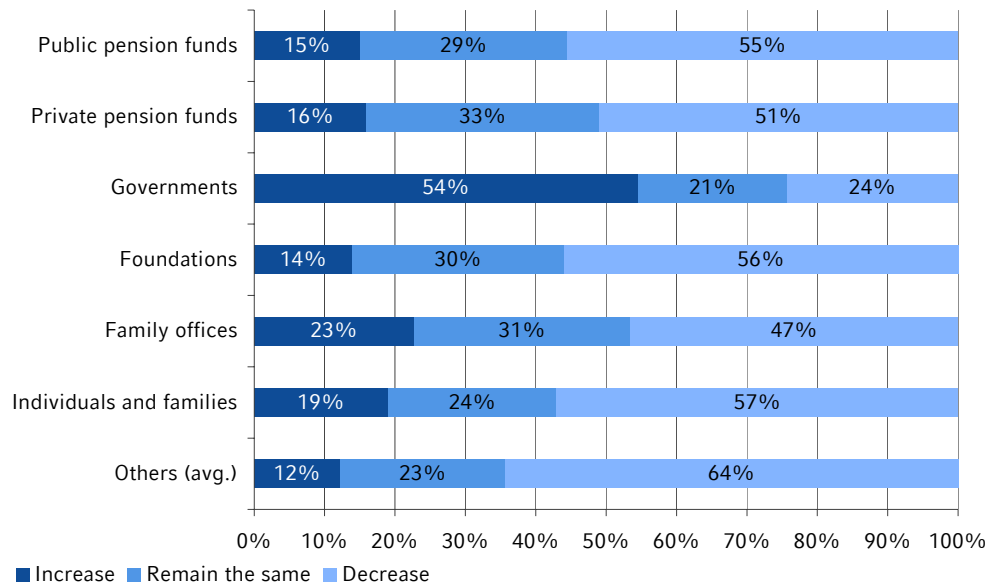
Source WestLB

UNPRI & Private Equity

UN PRI Signatories within the Private Equity segment			
21 Partners	France, Italy	Hamilton Lane	USA
Abraaj Capital	UAE	Hermes GPE	UK
Access Capital Partners	France	Holland Private Equity B.V.	Netherlands
Actera Group	Turkey	Holland Venture Partners	Netherlands
Actis	UK	IDFC	India
Activa Capital	France	iGlobe Treasury Management (NZ) Ltd	New Zealand
Adams Street Partners LLC	USA	Impax Asset Management	UK
AddVenture	Singapore	Investindustrial Advisors Limited	UK
Adveq	Switzerland	Iris Capital	France
AlpInvest Partners N.V.	Netherlands	Ironbridge Capital	Australia
Alto Invest	France	IWL Partners	South Korea
Anacacia Capital	Australia	Kohlberg Kravis Roberts & Co, LLP	USA
Antin Infrastructure Partners	France	Leon CVM Capital Management	Hong Kong
Aureos Capital Ltd	UK	LGT Capital Partners	Switzerland
AXA Private Equity	France	Limestone Investment Management	Estonia
Baltcap	Estonia, Latvia and Lithuania	Mercapital	Spain
BC Partners	UK	Mountain Cleantech AG	Switzerland
Blue Wolf Capital Management	USA	MVision Private Equity Advisers	UK
Brait Private Equity	South Africa	Nef Capital Ethique Management	France
Bridges Ventures	UK	NEXPAR	Brazil
Capital Dynamics	Switzerland	NSG Capital	Brazil
Cartesian Capital Group	USA	OFI Private Equity	France
CDC Group plc	UK	Orchid Asia Group Management Limited	Hong Kong
CHAMP Private Equity	Australia	PAI Partners	France
Cinven	UK	Panoramic Growth Equity	UK
Citizen Capital	France	Pantheon Ventures	Belgium
Clessidra SGR S.p.A.	Italy	Parish Capital Advisors LLP	UK
Cordiant	Canada	Partech International	France
Credit Agricole Private Equity	France	Partners Group	Switzerland
DGF Investimentos	Brazil	PCG Asset Management	USA
Direct Capital Limited	New Zealand	Portland Private Equity	Cayman Islands
Doughty Hanson & Co	UK	Praesidian Capital	USA
Earth Capital Partners LLP	UK	Pragma Capital	France
Earth Investment Partners	Hong Kong	Quay Partners	Oceania
Endeavour Capital Limited	New Zealand	Royal Bafokeng Holdings (Pty) Ltd	South Africa
FIR Capital Partners	Brazil	Satori Capital, L.L.C.	USA
First Reserve	USA	Squadron Capital	Hong Kong
Fondinvest Capital	France	Stratus	Brazil
Gimar Capital Investissement	France	Totem Investimentos	Brazil
Global Private Equity	France	UI Gestion	France
Green Capital Investimentos	Brazil	Vantage Capital	South Africa
Growthworks Capital	Canada	Westmount Pacific LLC	Thailand

Source UN PRI, 2010

The current economic crisis will affect the following types of limited partners' willingness to invest in the VC asset class, over the next three years



Source Deloitte, 2009

List of abbreviations

AuM	Assets under Management
BAU	Business As Usual
bp	basis points
CDP	Carbon Disclosure Project
CR	Corporate Responsibility
DCF	Discounted Cash Flow
ESG	Environmental, Social, Governance
FI	Fixed Income
IMM	Impact Mapping Matrix
LCA	Life Cycle Analysis
MARIA	Multi Asset Responsible Investing Approach
PE	Private Equity
PRI	Principles for Responsible Investment
RI	Responsible Investing
SAA	Strategic Asset Allocation
SAI	Strategically Aware Investing
SRI	Socially Responsible Investing
TAA	Tactical Asset Allocation
TE	Tracking Error
VC	Venture Capital

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Within that overall framework, a Buy rating means that the total return from the stock is expected to exceed 20%; Add means between 10% and 20%, Reduce means between 0% and minus 10%; Sell means the stock is expected to return less than minus 10%; a Neutral rating means that we believe the share is fairly valued at current share price levels. For this reason we do not specifically provide a numeric target price for this rating, as by definition this corresponds closely to the market price that is determined on a daily basis until such time that we change our rating.

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