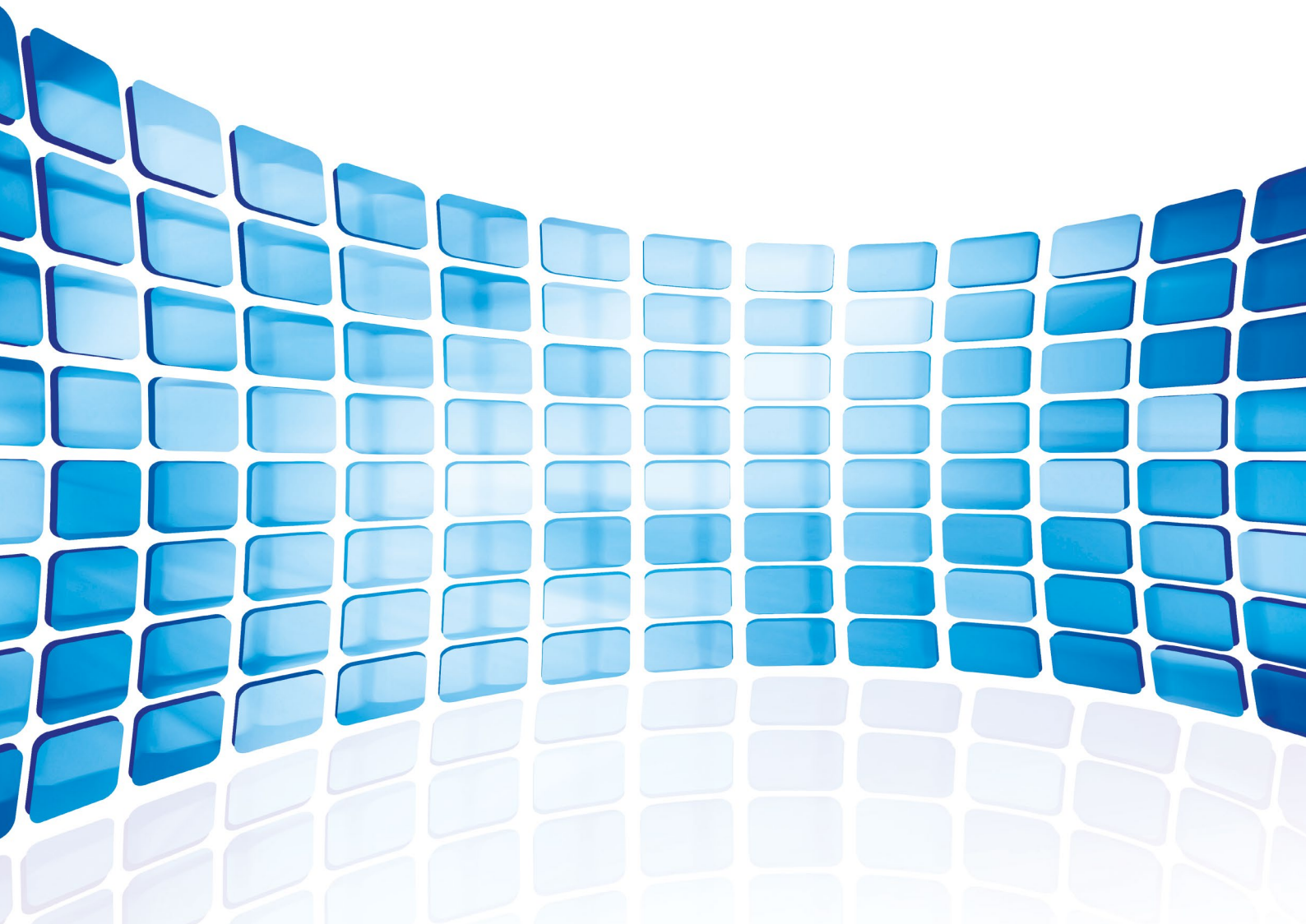




CORPORATE BONDS: SPOTLIGHT ON ESG RISKS



UNEP Finance Initiative
Changing finance, financing change



United Nations Global Compact

An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

THE SIX PRINCIPLES

1 We will incorporate ESG issues into investment analysis and decision-making processes.

2 We will be active owners and incorporate ESG issues into our ownership policies and practices.

3 We will seek appropriate disclosure on ESG issues by the entities in which we invest.

4 We will promote acceptance and implementation of the Principles within the investment industry.

5 We will work together to enhance our effectiveness in implementing the Principles.

6 We will each report on our activities and progress towards implementing the Principles.



This publication is intended to promote the application of Principle 1 of the Principles for Responsible Investment (PRI). The PRI Initiative was launched by the United Nations in 2006 after former UN Secretary-General Kofi Annan brought together a group of the world's largest institutional investors, academics and other advisors to draft a set of sustainable investment principles. At the heart of the six Principles for Responsible Investment is the premise that investors have a duty to act in the best long-term interests of their beneficiaries, which means taking into account environmental, social and governance factors.

This discussion paper was written by Mark Nicholls of MRG Comms. Archie Beeching from the PRI Initiative edited. It was written with support from consultants Chris Wigley and Phil Preston. Members of the PRI's Corporate Fixed Income Working Group also contributed. The working group is chaired by Dr. Solveig Pape-Hamich, vice president at KfW. A list of working group members appears in Appendix 1.

Copyright 2013

PRI DISCLAIMER

The information contained in this report is meant for the purposes of information only and is not intended to be investment, legal, tax or other advice, nor is it intended to be relied upon in making an investment or other decision. This report is provided with the understanding that the authors and publishers are not providing advice on legal, economic, investment or other professional issues and services. PRI Association and the PRI Initiative are not responsible for the content of websites and information resources that may be referenced in the report. The access provided to these sites or the provision of such information resources does not constitute an endorsement by PRI Association or the PRI Initiative of the information contained therein. Unless expressly stated otherwise, the opinions, recommendations, findings, interpretations and conclusions expressed in this report are those of the various contributors to the report and do not necessarily represent the views of PRI Association, the PRI Initiative or the signatories to the Principles for Responsible Investment. The inclusion of company examples does not in any way constitute an endorsement of these organisations by PRI Association, the PRI Initiative or the signatories to the Principles for Responsible Investment. While we have endeavoured to ensure that the information contained in this report has been obtained from reliable and up-to-date sources, the changing nature of statistics, laws, rules and regulations may result in delays, omissions or inaccuracies in information contained in this report. Neither PRI Association nor the PRI Initiative is responsible for any errors or omissions, or for any decision made or action taken based on information contained in this report or for any loss or damage arising from or caused by such decision or action. All information in this report is provided "as-is", with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this information, and without warranty of any kind, expressed or implied.

CONTENTS

Executive summary	4
Introduction	5
Key findings from academic research	8
Key findings from practitioners	9
Emerging sustainability topics	12
How the investment industry is responding	13
Opportunities for further research	14
Key takeaways	15
Next steps	16
Appendices	17

EXECUTIVE SUMMARY

Interest is rising among credit investors in exploring environmental, social and governance (ESG) factors and the impacts they might have on corporate creditworthiness. Institutional investors are applying strategies from other asset classes, looking at investments through an increasingly long-term lens, and, most importantly, responding to client demand for enhanced ESG analysis. They are starting to consider ESG factors as leading indicators of credit quality and returns. This report — developed with the PRI's Corporate Fixed Income Working Group — explores the case for corporate fixed income investors to consider ESG factors in their investment decisions.

An academic literature review undertaken by the working group found that available research, although limited in volume, shows compelling evidence that ESG factors can be correlated with credit quality. Similarly, case studies from working group members provide concrete and stark anecdotal examples of ESG factors proving material for holders of corporate debt. There are also emerging issues — including stranded high-carbon assets, water scarcity and demographic change — that have the potential to impact upon credit quality.

Indeed, investors are responding, with PRI signatories reporting that 67 percent of their fixed income assets are managed subject to ESG considerations. Credit rating agencies, sell-side brokers, regulators, and the financial media are also paying greater attention to ESG factors in the asset class.

But more research is needed. Particular priorities are: incorporating ESG into credit rating methodologies; relating debt quality to ESG materiality; and identifying leading ESG indicators for fixed income analysts.

To summarise the report's findings:

- The research available makes a compelling case for considering ESG factors in corporate fixed income investments;
- Investment strategies that incorporate ESG analysis are well suited to credit managers;
- The relationship between ESG factors and investment performance may not be as clear as it is in other asset classes;
- Investment managers are responding, driven by asset owner demand, but they require more support from clients and service providers.

THIS PAPER AIMS TO PROVOKE THOUGHT AND DEBATE ON THIS IMPORTANT TOPIC.
THE PRI INITIATIVE SEEKS FEEDBACK ON THIS REPORT AND WOULD ALSO LIKE TO HEAR FROM THOSE WHO HAVE
CONDUCTED RELEVANT RESEARCH.

PLEASE SEND ANY COMMENTS TO THE FOLLOWING ADDRESS:
implementation.support@unpri.org

INTRODUCTION

It should be second nature for institutional investors to pay careful attention to corporate governance as a source of both risk and opportunity. As owners of, or lenders to, companies, they have a duty to seek out good governance but also be on the alert for conflicts of interest between their objectives and senior management. Poor governance can lead to spectacular corporate failures. In most cases — Enron, Parmalat, Lehman Brothers, MF Global, and major US and European banks — shareholders aren't the only ones to lose out; bondholders are also affected.

The global financial crisis also exposed public finances to the effects of private governance risk and led to a dramatic loss of confidence in the underlying structure and operation of international financial markets.

Aside from governance, environmental and social problems also present considerable, if less obvious, risks to investors. There are compelling examples where these factors have played a significant role in a credit rating downgrade, default or even collapse of a company. BP, TEPCO and Lonmin are recent examples of companies that have suffered significant financial losses due to issues outside traditional considerations of balance sheets and governance. These companies have seen their costs of capital rise (BP yields jumped to as much as 8.7 percent following the Deepwater Horizon oil spill), and the value of their outstanding bonds or credit default swaps (CDS) fall dramatically.

The relationship between credit quality and, for example, a company's health and safety performance or energy efficiency is inevitably complex. Creditworthiness is a function of a company's profitability, productivity, competitive position, as well as estimated future value and cost of capital. All of these elements can be linked to ESG factors. Climate change regulations can increase capital expenditure and erode an energy company's margins. Significant fines for polluting activities can reduce cash flow. Child labour scandals can destroy brand value. Corruption cases can lock companies out of government contracts, while the exposure of fraud can see investor confidence evaporate overnight. Equally, good employee relations can increase productivity or reduce the risk of damaging strikes.¹

Clearly then, there is a case for bondholders to explore these issues and determine whether they are material to creditworthiness and, ultimately, investment performance. In response to considerable interest from its signatories, the PRI established a working group to explore this subject in 2011. The Corporate Fixed Income Working Group (CFI WG) comprised 47 individuals representing signatories from the

PRI's 1,200-strong base, and included some of the world's largest fixed income managers, asset owners and service providers.²

INVESTOR IMPETUS

In signing up to the PRI, institutional investors commit to incorporating ESG factors into their decision-making processes. They do this in the belief that these issues can affect long-term investment performance across all asset classes.

Pension funds, insurers and other asset owners allocate a significant proportion of their funds to fixed income. For the average pension fund, this is roughly a third of all assets.³ Investment-grade corporate and sovereign bonds are typically considered the bedrock of institutional investors' portfolios from a risk perspective. The characteristics of fixed income, combined with its role of providing a stable source of income, lend this asset class particularly well to a risk-averse approach.

In interviews with working group members⁴, it seems the focus has historically been on assessing the potential exposure to downside risks. Christoph Klein, managing director at Deutsche Asset & Wealth Management, which manages US\$1.24 trillion of assets, says the aim of using analysis on ESG factors is to uncover hidden risks. The CAD184.7 billion (US\$176 billion) Canadian pension fund Caisse de dépôt et placement du Québec uses ESG as a risk flagging tool — effectively a starting point for discussions among the investment team, according to Director Marie-Claude Provost.

"This [ESG] can raise issues of risk that have not been raised by traditional analysis," stated George Dallas, director of corporate governance at F&C Investments in London, which manages £90 billion (US\$143.6 billion). His firm applies ESG analysis in fixed income because "it's a more comprehensive way of looking at risk".

Aside from financial risks, failings relating to ESG factors pose significant risks to an investor's reputation. Speaking at the PRI's 2013 annual conference in Cape Town, Bill McGrew, a portfolio manager at US\$261 billion US pension fund CalPERS, reported how important it was for the fund's external managers to show they understand and consider ESG risks in their investment process, but stated that it is equally important that CalPERS' reputation is not damaged by the actions of companies to which it lends.

¹ For more on employee relations see: PRI, 2013. Employee Relations Engagement Research on Human Capital Management Practices. Available to signatories [online](#) [login required].

² Refer to appendix for a list of Corporate Fixed Income Working Group members.

³ Towers Watson, Global Pension Assets Study 2013. January 2013. The study covered US\$30 trillion of pension fund assets in 13 countries including the fast-growing BRICS countries (Brazil, Russia, India, China as represented by Hong Kong, and South Africa) and seven developed nations including the US and UK. Available [online](#).

⁴ Interviews were conducted by the PRI Secretariat during September and October 2013.

This question of reputational risk to underlying investors has a growing capacity to be exploited by a range of social interest groups and NGOs using social media channels as an initial platform. The recent divestment campaigns in the US are an early example.

Other drivers for responsible investment relate to an investor's particular mission or mandate. Adherence by issuers to certain norms such as human rights conventions is a common requirement for investors. Many asset owners — especially those representing public sector workers or charities — consider long-term social and environmental stewardship to be part of their responsibility to their beneficiaries.

“We have retirees who depend on us now for the income they live on, but today's 25-year-old participant may well be relying on us four or five decades from now to translate those investments into a steady stream of lifetime income,” says Roger Ferguson, president and CEO of the US\$542 billion US teachers' pension fund TIAA-CREF. “By virtue of our mission, we're in it for the long haul.”⁵

For investment managers, the impetus comes first and foremost from customers. “It's all about client demand,” says Meg Brown, a consultant at £34.8 billion (US\$56 billion) UK-based fixed income manager BlueBay Asset Managers. Brown estimates that up to a half of all clients ask about its capacity to identify and report on ESG-related risks.

“There is almost always a question about ESG capabilities [in RFPs],” says Klein. “We don't win [mandates] because we're good at ESG, but we would certainly lose them if we didn't cover it.”

Discussions about corporate governance and sustainability in investment mandates, Request for Proposals (RFPs), and meetings between fund managers and their clients are currently focused on investment strategies rather than outcomes. Asset owners are more focused on mitigating downside risk than on outperformance, and tend not to be prescriptive.

There may also be a case for looking at ESG factors as leading indicators of creditworthiness. Investment managers may overweight higher-yielding bonds where the rest of the market has failed to identify the potential for significant ESG improvements, e.g. a brewery introducing new technology to improve water efficiency or to better manage energy demand or emissions profiles in its supply chain.

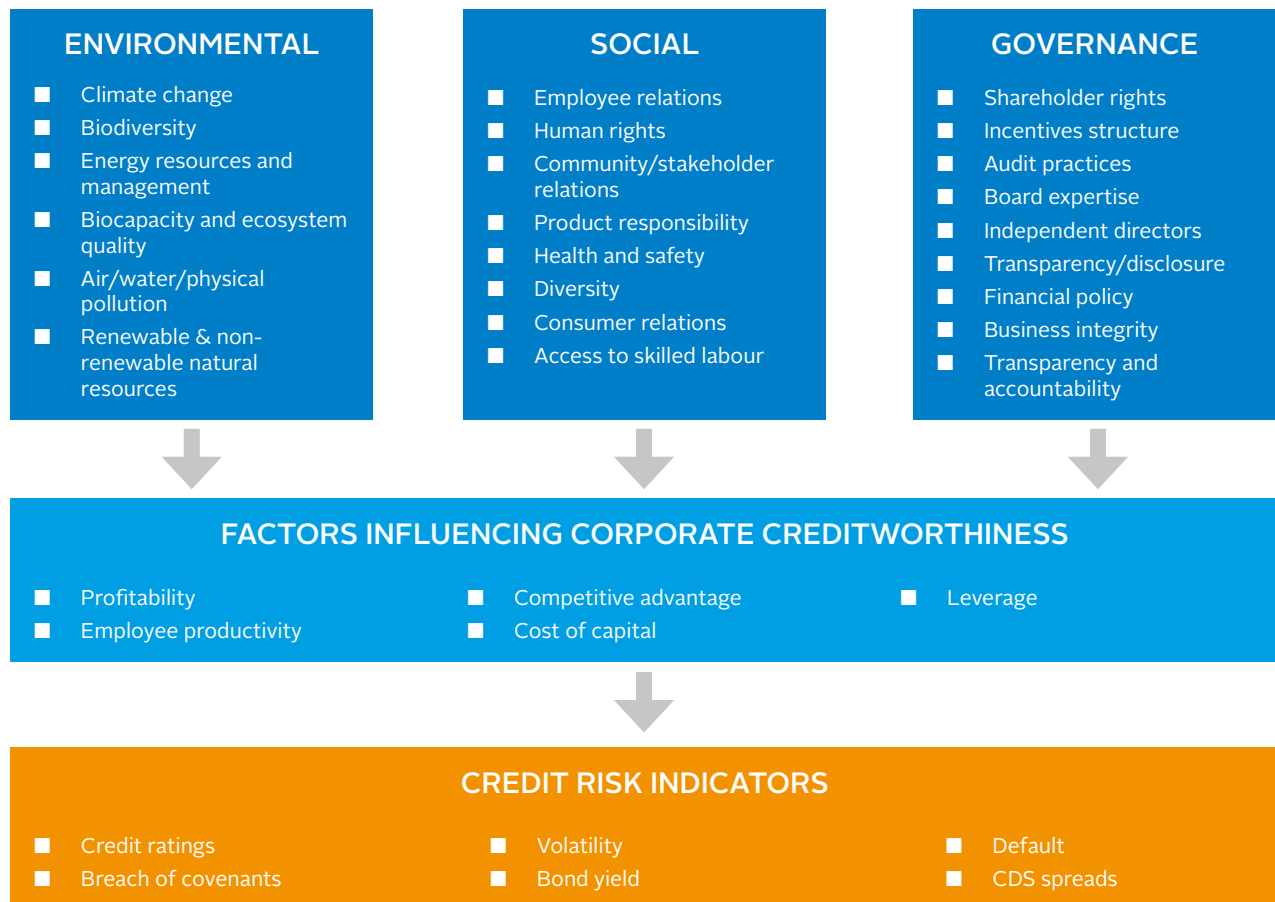
Whatever the impetus for learning and taking action, interest is clearly growing, with over 150 individuals having been involved in the PRI's fixed income programme since 2011. This discussion paper addresses how ESG factors can be material to credit risk, what variables determine materiality, and what investors and the PRI are doing to address these issues.

The framework used by the working group to explore this topic is shown below in Figure 1. This links various key ESG factors with commonly considered credit factors and looks for evidence of this relationship in common measures of creditworthiness.

⁵ Remarks to the TIAA CREF Annual Meeting, 19 July 2011. Available [online](#).

Figure 1. The relationship between ESG factors, credit factors and measures of creditworthiness.

Source: PRI Corporate Fixed Income Working Group



FIXED INCOME IN THE RESPONSIBLE INVESTMENT CONTEXT

Many of the themes covered in this paper have been looked at from a listed equity perspective. But there are key differences between fixed income and listed equity that will require an alternative approach to responsible investment in this asset class.

A buy-and-hold strategy for investing in long-term, relatively illiquid bonds requires consideration of all pertinent risk factors over the relevant time period. Bondholders should carefully consider significant long-term issues such as events risks, demographic and regulatory changes rather than more granular issues, ultimately fixed income is about the downside, and in particular, default risk.

As lenders of capital and not owners of shares, bondholders generally have fewer obvious opportunities to engage with companies, such as exercising voting rights

and speaking at AGMs. Engagement is a key tool for equity investors to mitigate ESG-related risks, and bondholders can consider engagement as well during investor roadshows, debt reissuance and in collaboration with other bondholders.

Issuers may not be aware of who their creditors are and have less impetus to listen to smaller fixed income investors, particularly when a debt issue is oversubscribed. Collaborative engagement by bondholders gives them greater influence and is a useful tool for mitigating major downside risks.

Further details can be found [online](#) in the PRI's discussion paper on responsible investment in fixed income. In 2014 the PRI will publish a more comprehensive guidance document on this subject.

KEY FINDINGS FROM ACADEMIC RESEARCH

Fewer than 20 academic articles were identified by the working group on this topic — far less than the hundreds exploring the links between ESG and share prices. Nonetheless, the studies reviewed by the working group did present compelling evidence that ESG factors are correlated with credit quality. Presented below are the highlights from these papers.⁶

ENVIRONMENTAL FACTORS

A study of bonds issued by 582 US corporations between 1996 and 2005 found that firms with environmental concerns and poor environmental management had a higher cost of debt, lower bond ratings and lower issuer ratings. It found that environmental misconduct can incur “costly penalties and evoke strong negative reactions from both financial and non-financial stakeholders, each of which affects their default risk and thus impairs the value of their fixed income securities”. Cost of debt could be up to 64 basis points higher, using conservative assumptions. “Environmental practices affect the solvency of borrowing firms, by determining their exposure to potentially costly legal, reputational, and regulatory risks.”⁷

Lenders charge on average 20 percent higher interest rates to companies which manage environmental risks poorly compared to those where environmental concerns are offset with environmental ‘strengths’, according to a study of US firms between 1995 and 2007. This is because firms with environmental issues are avoided by socially responsible investors, reducing the pool of capital available, while those lenders who assess environmental risks either decline to lend, or charge a premium to compensate for the risk.⁸

Environmental management in the US pulp and paper and chemicals sectors is a determinant of bond yields, as it is of equity returns, according to a study on environmental performance and bond pricing. The study found that firms with poor environmental performance face future liabilities associated with compliance and clean-up costs, amid tightening regulation, which can be large enough to bankrupt polluting firms and leave bondholders’ claims subordinate to environmental liabilities. It also found that this relationship weakens as the credit quality of the issuer rises.⁹

SOCIAL ISSUES

According to a study of 2,265 bonds issued between 1995 and 2005, **firms with stronger employee relations have a statistically and economically significant lower cost of debt financing**, with the quality of employee relations explaining 22–42 percent of the spread over US Treasuries paid by 568 US companies. The study finds that firms where employees quit, perform poorly or take action against the firm see reduced or more volatile cash flows, posing a source of risk to bondholders.¹⁰

An understanding of the state of employee relations is a useful additional indicator for assessing the likelihood of financial distress, according to a study of data from index and research provider KLD from 1991 to 2001. The study found that companies with good employee relations are better placed to bear financial distress, as they are more likely to win concessions from their workforce in difficult periods.¹¹

GOVERNANCE ISSUES

There is a positive relationship between anti-takeover mechanisms — such as weaker shareholder rights and poison-pill provisions — and credit ratings for investment-grade firms, and a negative one for speculative-grade firms, according to a study of 775 companies over 2002–07. This suggests that board stability and direction, rather than anti-takeover measures, may be the greater determinant of credit quality and lower spreads.¹²

A study of corporate bonds issued by US industrial firms between 1991 and 1996 found that they carried lower yields if levels of governance were higher, because shareholders were effectively monitoring management. However, it found that high levels of block institutional ownership — defined as an institution holding more than five percent of a company’s stock — have a negative relationship with credit ratings. It also found that better governance had stronger effects on yields for lower-rated bonds.¹³

⁶ The full review by working group members is available to PRI signatories [online](#) [login required].

⁷ Bauer, R. and Hann, D., 2011. ‘Corporate Environmental Management and Credit Risk’, Working Paper, Maastricht University.

⁸ Chava, S., 2011. ‘Environmental Externalities and Cost of Capital’, Working Paper, Georgia Institute of Technology.

⁹ Schneider, T., 2010. ‘Is environmental performance a determinant of bond pricing?’, Contemporary Accounting Research 20, 1–25.

¹⁰ Bauer, R., Derwall J., and Hann, D., 2010. ‘Employee Relations and Credit Risk’, Working Paper, Maastricht University.

¹¹ Kane, G. D., Velury, U., and Ruf, B. M., 2005. Employee relations and the likelihood of occurrence of corporate financial distress, Journal of Business Finance and Accounting 32, 1083–1105.

¹² Bradley, M., Chen, D., Dallas, G. S., and Snyderwine, E., 2010. ‘The effects of corporate governance attributes on credit ratings and bond yields’, Working Paper, Duke University.

¹³ Bhojraj, S. and Sengupta, P., 2006. ‘Effect of Corporate Governance on Bond Ratings and Yields’, The Journal of Business 76, 455–475.

KEY FINDINGS FROM PRACTITIONERS

While the academic research makes the link between ESG factors and corporate credit quality, the studies by their nature tend to be carried out across entire markets or sectors, and are predominantly US-focused. Practitioners indicated, however, that the materiality of ESG factors tends to be dependent upon sector, region, timescale and leverage, and is often highly company-specific.

Figure 2 shows how MSCI, an investment index and ESG research provider, measures the impacts of ESG factors across different sectors. This data informs the weighting

of each factor when determining an overall ESG 'score' for an issuer. Taking one example, carbon and air pollution intensity are most acute in high-emitting sectors such as utilities, energy and materials. Any future regulation on these carbon emissions or air pollution is a potential risk for those companies unable to control their emissions in an efficient way. It also looks at labour intensity as a measure of social factors and corruption as a measure of governance. Data is sourced from international organisations such as Transparency International and Carbon Disclosure Project (CDP) as well as data providers such as Thomson Financial.

Figure 2. : Shows a heat map of key ESG factors across different sectors.
Source: MSCI

	ENVIRONMENTAL				SOCIAL		GOVERNANCE
	CARBON INTENSITY (tCO ₂ e per USD million sales)	DIRECT AND INDIRECT WATER WITHDRAWAL (liters per USD million sales)	AIR POLLUTION INTENSITY (tons per facility)	HAZARDOUS WASTE INTENSITY (tons per facility)	FATALITIES (per million employees)	LABOR INTENSITY (employees per USD million sales)	CORRUPTION INDEX (10 = highest bribe incidence)
Utilities	1,237	79	1,853	149	0.1	1.6	6.8
Energy	524	26	550	9,643	0.3	1.5	7.0
Materials	583	44	1,270	7,534	0.1	3.5	5.6
Consumer Staples	67	121	164	71	0.0	4.0	5.5
Industrials	176	25	147	477	0.1	4.4	6.1
Telecommunication Services	34	10	9	112	0.0	3.1	6.3
Health Care	37	19	85	546	0.0	3.4	6.8
Consumer Discretionary	63	23	40	56	0.0	5.5	5.4
Information Technology	52	23	33	121	0.0	4.4	5.4
Financials	44	8	14	53	0.0	2.1	5.8

Scope: Based on analysis of companies on the MSCI All Country World Index (ACWI) as of Nov 18, 2013; n = 2,388 companies

Sources:

Carbon	MSCI ESG Research, Carbon Disclosure Project (CDP), Comprehensive Environmental Data Archive (CEDA), Eurostat
Water	MSCI ESG Research, CEDA, Canadian Industrial Water Survey, Australian Bureau of Statistics
Air Pollution	MSCI ESG Research, US Environmental Protection Agency (EPA) AirData Facility SIC Report
Hazardous Waste	MSCI ESG Research, US Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA)
Fatalities	MSCI ESG Research, US Occupational Safety and Health Administration (OSHA), UK Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR)
Labor	MSCI ESG Research, Thomson Financial
Corruption	MSCI ESG Research, Transparency International

Despite the research conducted, it remains difficult to demonstrate, amid the multitude of factors that have a bearing on corporate performance, a discrete causal relationship between ESG factors and credit quality. There is rarely a direct or standalone transmission from, say, a poor human rights record and long-term profitability. “It’s wrong to say that there is a mechanical relationship between ESG and credit ratings,” stresses Dallas at F&C. “Materiality is a difficult issue,” agrees Adam Kirkman, Head of ESG at AMP Capital, Australian multi-asset manager of AU\$130 billion (US\$121 billion).

This explains why governance — where the links to financial performance are clearest — attracts most attention. Many corporate collapses can be attributed to weak or even corrupt management and the links can be clearly defined. A focus on governance is nothing new to good credit analysis and these considerations are easily factored into investment decisions, which is why most are already captured by the market.

Conversely, defaults resulting purely from environmental and social issues are virtually unheard of. In its meetings, the working group discussed some key reasons for considering environmental and social factors in their credit analysis.

Firstly, a growing number of analysts consider the way a company manages environmental and social risks to be a proxy for good management. “ESG factors help our analysts determine [...] the soundness of an issuer’s governance practices,” says US-based fund manager Breckinridge Capital Advisors.¹⁴ ESG analysis isn’t simply about exposure to these types of issues; it’s about a company’s management of that exposure.

Secondly, a larger and richer global population is putting ever-greater pressure on dwindling natural resources and communities themselves. New regulation, the widespread use of social media, and a shift towards greater corporate transparency (and integrated reporting) place pressure on companies to increase their accountability, identify potential externalities, and internalise costs that have historically been external. Companies looking to reduce supply chain costs, by buying from cheaper factories in developing nations, face a backlash from investors and consumers alike when this results in tragedies such as those seen recently in Bangladesh. Companies and their investors are more exposed to reputational risks than ever before. In short, environmental and social issues may not have been financially material in the past, but they are becoming increasingly important.

Evidence from case studies such as those presented below shows that ESG analysis could have provided (and in most cases did provide) early warning of material financial losses. But in most cases, investors were either not aware of or underestimated the potential risk to their investment.

BP DEEPWATER HORIZON DISASTER

Poor health and safety procedures at BP caused the deaths of 11 contractors and took a heavy toll on providers of both equity and debt to the oil major. The explosion of the Deepwater Horizon rig off the Gulf of Mexico on 20 April 2010 triggered the largest environmental disaster in US history, and the largest marine oil spill in the world. The spill is set to cost BP US\$42.4 billion, the company said in July 2013.¹⁵

Some argue that this sort of ‘event risk’ falls beyond the purview of credit analysis. But running up to the disaster, BP suffered from a series of well-documented health and safety failings, having experienced relatively low levels of incident in preceding years. In March 2005, 15 people died and 180 were injured in an explosion at BP’s Texas City refinery. In March 2006, a BP facility caused a major oil spill at Prudhoe Bay oil field in Alaska.

BP’s share price more than halved in the two months following the disaster, and it still trades at a lower price-to-earnings ratio than its oil major peers. But the disaster also affected the value of its debt. Its benchmark five-year Series 2014 bond fell from a premium of 103 before the spill to a low of 82.9 on 25 June — a drop of 19.5 percent. While debt values eventually recovered to pre-event levels, BP’s five-year CDS prices remained volatile well into 2012.

The disaster also affected the credit default swaps referenced to its bonds. Its five-year CDS rating was trading at 40 before the spill, spiking to as high as 611 in mid-June, implying a dramatic increase in the market’s perception of BP’s risk of default. While the bond price has recovered, CDS pricing remains elevated — at around 60 at the end of October 2013 — as a result of the use of measures of historic volatility in CDS pricing models.

The incident led to downgrades of BP’s debt by the three largest credit rating companies, with Moody’s, for example, dropping it from Aa1 before the spill to A2 in the months following.

¹⁴ Breckinridge, 2012. A Sustainable Approach to Fixed Income Investing. Available [online](#).

¹⁵ BP quarterly results press release, 30 July 2013. Available [online](#).

DRAX DOWNGRADE OVER EMISSIONS CONCERNS

Tightening carbon emissions regulations poses a medium-term threat to a range of carbon-intensive businesses, such as UK-listed Drax Power Ltd. The company operates the largest partially coal-fired power station in the UK and is also the country's largest single emitter of CO₂. In 2009, Standard & Poor's (S&P) downgraded the company from investment (BBB-) to speculative grade (BB+). The downgrade was partly in response to the effect of the economic recession on power prices, but it was also a response to tightening targets in the EU Emissions Trading System (ETS).

"Drax's earnings have been under pressure since 2008, when Phase II of the EU Emissions Trading Scheme began," S&P's analysts wrote, noting that "the increased cost of carbon allowances and higher coal prices resulted in a 10 percent decline in EBITDA in 2008, despite relatively high power prices and dark green spreads."¹⁶ Moreover, Phase III of the ETS in 2013 will bring in another structural increase in carbon costs.¹⁷ Part of Drax's response to more stringent carbon constraints was to convert half of its boilers to run on biomass.

LONMIN AND THE DEATHS AT MARIKANA

Social issues pose risks to the operations of any company and can be profound for those with a relatively large work force. In August 2012, a breakdown in employee relations at platinum producer Lonmin culminated in 44 employee and police deaths at the Marikana mine in South Africa. In the months following the massacre, some 60 percent was wiped off the value of the company's shares.

Lonmin has not issued any debt publicly. However, on 21 August of that year, Lonmin warned private lenders that it risked breaching its loan covenants as it was forced to shut down operations. Shareholders ultimately suffered, with their shares diluted by a US\$800 million rights issue at the end of 2012. In the long term, investors may turn down the opportunity to finance the miner, given the risks involved at a country and sector level. Interestingly, when Moody's downgraded South Africa's sovereign credit rating later in 2012, it cited ongoing unrest in the mining sector as one of the key reasons for its decision. As with BP, few, if any, fund managers chose to adjust their investment in Lonmin due to

its poor employee relations or health and safety record. Looking at data on these factors could have helped investors choose between two issuers with evenly priced bonds, thereby achieving the same return at lower risk levels.

GEICINA'S CORPORATE GOVERNANCE FAILINGS

Gecina SA is a real estate investment company specialized in the rental of commercial real estate and residential properties.

In March 2009, S&P placed Gecina's rating (back then BB+) on review for downgrade. The rating action was primarily based on weak corporate governance. Subsequently, in April that year, it downgraded Gecina to BB-, while still keeping the ratings on negative outlook. S&P said: "The rating actions reflect our negative opinion of Gecina's corporate governance and the resulting risk we perceive of significantly reduced financial flexibility. We believe that several unexpected related party transactions reflected heavily credit dilutive corporate governance practices that may weaken the company's access to financing". The agency also referred to a clear lack of Board control, and the fact that compensation was 'inadequately' aligned with credit quality (namely predominantly based on increasing the absolute level of EBITDA).

In February 2010, S&P placed Gecina's ratings back on Watch Positive based on improvements in corporate governance. A new CEO and new non-executive Chairman were appointed, the board of directors was strengthened through a number of new appointments and three board committees were created. These improvements supported S&P's decision to upgrade Gecina to BB+ in 3/10. The group is currently rated BBB.

¹⁶ The dark green spread is the margin that a power company makes on its electricity sales, taking into account the cost of coal and of the carbon allowances it is required to surrender to offset the associated emissions.

¹⁷ "Drax Power Ltd. Issuer Rating Cut to 'BB+' On Weak U.K. Power Prices and Increasing Business Risk; Outlook Negative" Standard & Poor's Research Update, 15 May 2009.

EMERGING SUSTAINABILITY TOPICS

Fixed income managers could consider ESG factors as part of their fundamental analysis, as is being done by many equity analysts. See, for example, PRI's publication [Integrated Analysis: How investors are addressing environmental, social and governance factors in fundamental equity valuation](#). Emerging themes include stranded carbon assets, water scarcity and demographic shifts.

STRANDED ASSETS AND THE CARBON BUBBLE

The 'Unburnable Carbon' thesis of the Carbon Tracker Initiative is gaining interest from the investment community. The NGO points out that if the world is to avoid significant impacts relating to climate change, up to 80 percent of proven reserves of oil, gas and coal will have to remain unexploited. If governments maintain or intensify their emissions targets, fossil fuels will become less viable as an energy source and demand is likely to fall, making it uneconomic to extract higher-cost reserves and potentially stranding fossil fuel assets.

A number of equity analysts, including those at HSBC, Citi and Goldman Sachs, have produced research explicitly or implicitly embracing this thesis. Fixed income analysts are also considering the issue. S&P, for example, has identified high-cost Canadian oil sands developers as being first at risk of default from a slide in oil prices.

WATER SCARCITY

Water scarcity has an impact on a number of sectors. Growing demand, over-exploitation of existing resources, and changing precipitation patterns are likely to affect agriculture, food and beverages, chemical production, and mining in particular. Consultancy Towers Watson placed resource scarcity — defined as food, water and energy crisis — at the top of their ranking of extreme risks, up from 11th the previous year.¹⁹ For fixed income investors, water and power utilities — many of which rely heavily on the bond markets for long-term finance — are likely to be of most concern. A 2010 report from Ceres, a US-based coalition of investors and environmental groups, highlighted the risk that water scarcity poses to US utilities, and argued that bond investors are "largely unaware of these risks", blaming the "uneven scrutiny" applied by credit rating agencies to water exposures.

Rating agencies are starting to research the issue. S&P has warned that power companies in eastern England "are likely to face both continued water shortages and increasing operating and capital costs", which "could

harm the utilities' credit quality over the long term if not appropriately mitigated". A report from Moody's on water risks in the mining sector notes that water scarcity and other environmental issues will push up development and operating costs, meaning that "projects will take longer to complete, be costlier and riskier, with credit-negative implications for the entire industry".²¹

DEMOGRAPHIC CHANGE

Demographic shifts, most notably ageing populations in rich and, increasingly, middle-income countries, will put pressure on public finances and sovereign creditworthiness. This, in turn, potentially adds to the country risk to which companies and their fixed income investors are exposed. Many corporate pension funds are also feeling the pressure, with existing pension liabilities having a knock-on effect on corporate balance sheets.

Deutsche Bahn, Germany's national rail operator, employs almost 200,000 people of whom 80,000 are over the age of 50 and just 10 percent under 30. The state-owned company has struggled to maintain its usual services during busy holiday periods, causing cancellations and re-routings. This is due to a lack of sufficiently qualified staff.

Preparations for a public sell-off in 2008 involved staff redundancies and pay cuts. However, the global financial crisis meant it remained state-owned but now understaffed, according to Deutsche Bahn's own sustainability report. In 2012, it explained that "the current age structure within DB Group will mean a significant increase in staff requirements in the future. At the same time, demographic changes will make it harder to recruit new staff". While equity markets may adjust to these changes over time, long-term bond investors are likely to be more exposed to these types of long-term trends. Organisations which commit to holding bonds which mature over 20 years should consider how these trends will impact upon an issuer's creditworthiness and whether they will be material to investment performance.

18 Standard and Poor's, 2013. Oil From U.S. Unconventional Resources Is Unlikely To Displace Canadian Crude Oil Exports Any Time Soon. Available [online](#).

19 Towers Watson, 2013. Extreme Risks 2013. Available [online](#).

20 Standard & Poor's, 2012. CreditWeek Special Report: Water, The Most Valuable Liquid Asset? Available [online](#).

21 Moody's Investor Service, Water Scarcity to Raise Capex and Operating Costs, Heighten Operational Risks, 13 February 2013.

HOW THE INVESTMENT INDUSTRY IS RESPONDING

Since the Fixed Income Work Stream was established in 2011, the PRI has seen increased interest in responsible investment from bondholders. In meetings and interviews, signatories have discussed how they use ESG analysis to inform allocation, credit analysis, bond fund weighting, and overall portfolio risk analysis. This paper concentrates on why fixed income investors should consider ESG factors in their investment process; a guidance document, to be published in 2014, will build on those meetings and interviews to showcase how this can be done. For now, we include some examples of the investment industry's response to the increasing evidence of a correlation between ESG factors and credit quality.

According to the PRI's 2009 survey of its signatories, an average of 56 percent of fixed income assets under management were invested subject to ESG considerations.²² In 2010, this figure had jumped to 67 percent. In a 2012 survey by the European Sustainable Investment Forum (Eurosif), the allocation of assets to socially responsible (SRI) bond funds stood at 51 percent of total SRI funds.²³ The report also states that "SRI investors on aggregate favour a higher allocation to bonds over more exotic assets".

German signatory KfW Bankengruppe describes itself as a "responsible bank". The bank is both an issuer and lender and its liquidity portfolio of EUR21 billion (US\$28.2 billion) consists purely of fixed income securities invested to maturity. KfW's approach is to adjust internal credit ratings of issuers based on their "ESG score" provided by Sustainalytics, a research provider. Issuers are ranked, relative to peers, on their performance on certain ESG criteria such as CO₂ emissions. Those ranked in the top 20 percent of ESG scores retain their original credit rating. Issuers ranked between 20 and 80 percent have their credit rating adjusted down by 10 percent. For the lowest-scoring 20 percent, credit ratings are reduced by 30 percent.

In addition to ranking issuers on their ESG performance, KfW also screens out issuers from its portfolio based on criteria found on the IFC Exclusion List published by the International Finance Corporation (IFC), such as production or trade in tobacco and munitions.²⁴

In addition, KfW communicates its investment strategy to issuers in order to engage with them on how they manage certain ESG criteria.

At the start of 2013, KfW sent 95 engagement letters to issuers explaining its investment approach, the ESG assessment methodology, and informing recipients of their overall ESG scores.

Investors are not the only ones showing interest; sell-side brokers, regulators and mainstream financial media are starting to pay greater attention. In September 2013, the capital markets publication EuroWeek published a special report setting out investor sentiment on this part of the fixed income market.²⁵ The report also contained a framework for green bonds²⁶ written by Bank of America Merrill Lynch and Citibank. This type of framework is important for issuers and investors to have a clear sense of what green bonds are and where funds are allocated, thereby encouraging the growth of the market. In 2013, the Climate Bonds Initiative estimated the scale of the green bonds universe to be at US\$346 billion, significantly increased from US\$174 billion in 2012.²⁷

OTHER STAKEHOLDERS

Brokers and rating agencies also have an important role to play in helping corporate bondholders recognise the risks and opportunities related to ESG factors. But activity in this area is unlikely to grow until investors show significant collective demand for research and credit ratings which incorporate these factors. Members of the working group regularly discussed the role of these organisations, expressing concern that ESG criteria are not incorporated into the quantitative models that form part of their opinions on creditworthiness.

In June 2013, Barclays and MSCI released a family of ESG fixed income indices as a benchmark for investors. Three indices in total cover a negatively screened set of issuers, a positively screened or "best in class" set of issuers, and an ESG-weighted index based upon MSCI's ESG ratings. Further work is being conducted on this topic by other initiatives, including CERES (US), UNEP Finance Initiative, and the National Association of Pension Funds (NAPF UK).²⁸

²² PRI, 2011. PRI Report on Progress 2011. Available [online](#).

²³ EUROSIF (2012) European SRI Study. Available [online](#).

²⁴ Details of the IFC Exclusion List can be found [online](#).

²⁵ EuroWeek (2013). Sustainable and Responsible Capital Markets. Available [online](#).

²⁶ Green bonds are defined as fixed-income securities intended to raise capital for a project with specific environmental (and occasionally social) benefits such as the mitigation of climate change.

²⁷ HSBC and Climate Bond Initiative, 2013. Bond and Climate Change: The State of the Market in 2013.

²⁸ Ceres, 2013. 21st Century Investor: Ceres Blueprint for Sustainable Investing. Available [online](#).

UNEP FI & Global Footprint Network, 2012. A New Angle on Sovereign Credit Risk. Available [online](#).

NAPF, 2013. Responsible Investment Guide 2013. Available [online](#).

OPPORTUNITIES FOR FURTHER RESEARCH

Responsible investment activity is developing quickly and the industry is still trying to build a consensus on best practice, a highly subjective concept in itself. The surge of bondholder interest in ESG analysis in recent years has prompted a range of questions which this paper only goes part way to answering. Three priorities were identified by the working group to move responsible investment in fixed income forward.

INCORPORATING ESG IN CREDIT RATING METHODOLOGIES

Credit rating agencies play a vital role in fixed income markets. Members of the working group would like to see more systematic and transparent consideration of ESG factors in their ratings. Some rating agencies have published reports which show in-depth understanding of major ESG themes such as demographics and water scarcity, and yet there is little transparency about how these might be used as rating criteria.

Michael Wilkins, S&P's London-based head of environmental finance, notes that the rating agency has looked at the effects of carbon pricing and water risk in some markets and at risks of stranded fossil fuel assets, and is beginning work on natural capital.

“The issues need to be material, and have some level of visibility,”

meaning S&P's work in this area has tended to focus on the potential impact of environmental policy and regulation rather than attempting to anticipate 'black swan' events, such as the Fukushima disaster.

RELATING DEBT QUALITY AND ESG MATERIALITY

Are ESG factors likely to be more material for investors in high-yield bonds relative to investment grade? Intuitively, lower-grade, higher-risk companies are likely to be more vulnerable to ESG factors — and some of the academic research²⁹ suggests that the potential for materiality of these factors grows weaker as an issuer's credit rating climbs.

Meg Brown at BlueBay reports particular interest from clients on ESG risks in emerging markets' portfolios. To many, ESG analysis adds a reassuring additional layer of scrutiny in markets where risks are not fully understood.

IDENTIFYING LEADING ESG INDICATORS FOR FIXED INCOME ANALYSTS

Can analysts use ESG data as leading indicators of credit strength and predict a deteriorating credit story, or is poor ESG management simply symptomatic of poor financials? While the data and examples in this paper show strong correlations between ESG factors, credit factors and investment outcomes, a crucial next step is to explore evidence of causality.

This presents an opportunity for both the academic community and for sell-side analysts. In terms of academic research, particularly, almost all of the studies to date have looked at US companies, given the size of the US market and the availability of data. Research into other corporate fixed income markets is to be encouraged.

²⁹ Schneider, T., 2010. Is environmental performance a determinant of bond pricing? Evidence from the U.S. pulp and paper and chemical industries. *Contemporary Accounting Research* 20, 1–25.
Bhojraj, S. and Sengupta, P. (2003). Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and the Outside Directors, *The Journal of Business*, 76, pp. 455–475.
Klock, M. S., Mansi, S. A., and Metrick, W. F., 2005. Does corporate governance matter to bondholders? *Journal of Financial and Quantitative Analysis* 40, 693–719.

KEY TAKEAWAYS

This paper has explored the links between ESG factors, corporate credit risk, and the performance of corporate fixed income investments. It was prepared in the context of growing investor interest in the subject, especially among the PRI's signatory base. Its findings can be summarised as follows.

THE RESEARCH REVIEWED BY THE WORKING GROUP MAKES A COMPELLING CASE FOR CONSIDERING ESG FACTORS IN CORPORATE FIXED INCOME INVESTMENTS.

Academic and practitioner research suggests that good management of ESG factors correlates strongly with credit strength. The materiality of ESG factors will vary depending on a company's overall indebtedness, sector, region and the maturity period of its bonds. Governance issues are already largely captured in credit analysis, but in most cases, markets are failing to price in environmental and social factors. This offers active investors in particular an opportunity to gain additional insights into risk, reduce overall portfolio risk, and benefit from market inefficiencies.

INVESTMENT STRATEGIES WHICH INCORPORATE ESG ANALYSIS ARE WELL SUITED TO CREDIT MANAGERS...

A responsible investment strategy is particularly well suited to most bondholders, given the long-term and relatively illiquid nature of bonds, and bondholders' focus on downside or default risk. For investors actively trading bonds or CDSs, ESG factors also offer additional insights into financial opportunities — more akin to the way shareholders might consider those factors.

...BUT THE RELATIONSHIP BETWEEN ESG FACTORS AND INVESTMENT PERFORMANCE MAY NOT BE AS CLEAR OR DIRECT AS IT IS IN OTHER ASSET CLASSES.

Less volatility in debt markets, relative illiquidity, and bondholders' preferred position in corporate capital structures mean corporate bond prices are likely to be proportionately less sensitive to ESG factors than share prices. It is intuitive that ESG factors will be more material for companies with lower levels of creditworthiness. The focus in fixed income is therefore likely to be on major downside risks related to ESG factors, particularly catastrophic one-off events which impact upon both cash flows and reputations.

INVESTMENT MANAGERS ARE RESPONDING, DRIVEN BY ASSET OWNER DEMAND...

Investors are incorporating ESG analysis into their management of corporate fixed income as a way of screening out certain issuers, in response to particular environmental risks or as part of their fundamental analysis of bonds. The most powerful driver for investment managers is asset owner demand. As major pension funds and insurers come to recognise the potential financial and reputational risks related to ESG factors, they are requesting

evidence from their managers that they have adequate resources and processes to identify and manage them.

...BUT THEY REQUIRE MORE SUPPORT FROM CLIENTS AND SERVICE PROVIDERS ALIKE.

It is in investment managers' interests to gain additional insight into credit risk. ESG analysis creates a potential market for more integrated products and services from other key stakeholders such as credit rating agencies, research providers and sell-side brokers. The PRI's signatory network, acting in unison and supporting a consistent approach, should have a sufficiently loud voice to bring about these significant changes and support the investment industry as a whole.

NEXT STEPS

There is no single approach to responsible investment that suits all organisations. Investors should consider their clients' and beneficiaries' needs and how responsible investment fits with their overarching investment philosophy before developing a responsible investment policy.³⁰ This may detail different policies for each of the major asset classes. From this should stem a formal process for analysts, portfolio managers and other investment professionals to follow. Asset owners should consider how they can align their investment manager's interests with their own to achieve their responsible investment goals.

Investors can engage with the PRI to learn more about this important area of responsible investment. The PRI Secretariat regularly establishes working groups to address specific subjects, giving investors the opportunity to learn from peers and share their knowledge as well as raising their profile.³¹

HOW THE PRI IS RESPONDING

At present, there is little visibility on responsible investment practices in this area. To address this, the PRI will publish a guidance document in 2014 highlighting interesting and innovative examples of bondholders putting the Principles into practice. This will be based on interviews with a number of direct and indirect investors as well as brokers and credit rating agencies.

Bondholders can also use the fixed income module of the PRI's new Reporting Framework to communicate their responsible investment approach to clients and other stakeholders. The module covers policy and practice on ESG incorporation, the financial and ESG outputs and outcomes, and how this is communicated to stakeholders.

In more general terms, the PRI helps signatories by showcasing investor strategies in case studies and webinars. It also hosts events to build communities of like-minded practitioners.

In the longer term, the PRI's Fixed Income Work Stream will turn its attention to the role of credit rating agencies and environmentally and socially themed bonds. It will also look at how bondholders can be active owners, in line with Principle 2 of the Principles for Responsible Investment, by engaging with corporate issuers to encourage improved disclosure, management and performance on ESG issues.

³⁰ Guidance for asset owners on writing an investment policy can be found [online](#) on the PRI's website.

³¹ Contact implementation.support@unpri.org for more information.

APPENDICES

CORPORATE FIXED INCOME WORKING GROUP MEMBERS

AEGON Asset Management
 AllianceBernstein
 Allianz Global Investors
 Allianz SE
 AMP Capital Investors
 Amundi Asset Management
 ATP - The Danish Labour Market Supplementary Pension
 BlueBay Asset Management
 Breckinridge Capital Advisors
 Caisse de dépôt et placement du Québec
 Carbon Tracker Initiative
 Danske Bank
 Deutsche Asset and Wealth Management
 EIRIS
 F&C Asset Management
 Generation Investment Management
 Hermes Fund Managers Limited
 imug
 KfW Bankengruppe
 Legal & General Investment Management
 Mercer
 MN
 MSCI
 National Employment Savings Trust
 NEI Investments
 Newton Investment Management
 oekom research
 Pension Protection Fund
 PGGM Investments
 PIMCO
 Robeco
 Sustainalytics
 UNEP Finance Initiative
 Union Investment
 Unipension Fondsmæglerselskab

THIS PAPER AIMS TO PROVOKE THOUGHT AND
 DEBATE ON THIS IMPORTANT TOPIC.
 THE PRI INITIATIVE SEEKS FEEDBACK ON THIS
 REPORT AND WOULD ALSO LIKE TO HEAR FROM
 THOSE WHO HAVE CONDUCTED RELEVANT
 RESEARCH.

PLEASE SEND ANY COMMENTS TO THE FOLLOWING
 ADDRESS:
implementation.support@unpri.org

BIBLIOGRAPHY OF AVAILABLE ACADEMIC RESEARCH

- Ashbaugh, H., Collins, D. W., and LaFond, R. (2004). "The Effects of Corporate Governance on Firms' Credit Ratings." *Journal of Accounting and Economics* 42, 203–243.
- Bhojraj, S. and Sengupta, P. (2003). "Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and the Outside Directors," *The Journal of Business*, 76, pp. 455–475.
- Bradley, M., Chen, D., Dallas, G. S., and Snyderwine, E. (2010). The effects of corporate governance attributes on credit ratings and bond yields. Working Paper, Duke University.
- Bauer, R. and Hann, D. (2011). "Corporate Environmental Management and Credit Risk", Working Paper, Maastricht University.
- Bauer, R., Derwall J., and Hann, D. (2010). "Employee Relations and Credit Risk." Working Paper, Maastricht University.
- Chava, S. (2011). "Environmental Externalities and Cost of Capital." Working Paper, Georgia Institute of Technology.
- Chava, S., Livdan, D., and Purnanandam, A. (2009). "Do Shareholder Rights Affect the Cost of Bank Loans?" *Review of Financial Studies* 22, 2973–3004.
- Cremers, K. J., Nair, V. B., and Wei, C., 2007. Governance mechanisms and bond prices. *Review of Financial Studies* 20, 1359–1388.
- Goss, A. and Roberts, G. S. (2009). The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking and Finance* 35, 1794–1810.
- Graham, A., Maher, J. J., and Northcut, W. D., 2001. Environmental liability information and bond ratings. *Journal of Accounting, Auditing and Finance* 15, 96–116.
- Graham, A. and Maher, J. J., 2006. Environmental liabilities, bond ratings, and bond yields. *Advances in Environmental Accounting & Management* 3, 111–142.
- Kane, G. D., Velury, U., and Ruf, B. M., 2005. Employee relations and the likelihood of occurrence of corporate financial distress. *Journal of Business Finance and Accounting* 32, 1083–1105.
- Klock, M. S., Mansi, S. A., and Metrick, W. F., 2005. Does corporate governance matter to bondholders? *Journal of Financial and Quantitative Analysis* 40, 693–719.
- Kölbel, J. F. and Busch, T. (2013). "The effect of bad news on credit risk: a media based view of the pricing of corporate social responsibility." *Duisenberg School of Finance. Policy Paper No. 40* (published after working group literature review).
- McKenzie, G. and Wolfe, S., 2004. The impact of environmental risk on the UK banking sector. *Applied Financial Economics* 14, 1005–1016.
- Schneider, T., 2010. "Is environmental performance a determinant of bond pricing? Evidence from the U.S. pulp and paper and chemical industries." *Contemporary Accounting Research* 20, 1–25.
- Sengupta, P. (1998). "Corporate Disclosure Quality and the Cost of Debt." *The Accounting Review*, 73, pp. 459–474.

The PRI Fixed Income Work Stream is managed by



Archie Beeching

Manager, Fixed Income

archie.beeching@unpri.org

+44 (0) 20 3714 3167

The PRI is an investor initiative in partnership with
UNEP Finance Initiative and the **UN Global Compact**.

United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI is a unique partnership between the United Nations Environment Programme (UNEP) and the global financial sector. UNEP FI works closely with over 200 financial institutions that are signatories to the UNEP FI Statement on Sustainable Development, and a range of partner organisations, to develop and promote linkages between sustainability and financial performance. Through peer-to-peer networks, research and training, UNEP FI carries out its mission to identify, promote, and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

More information: www.unepfi.org



UN Global Compact

Launched in 2000, the United Nations Global Compact is both a policy platform and a practical framework for companies that are committed to sustainability and responsible business practices. As a multi-stakeholder leadership initiative, it seeks to align business operations and strategies with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption, and to catalyse actions in support of broader UN goals. With 7,000 corporate signatories in 135 countries, it is the world's largest voluntary corporate sustainability initiative.

More information: www.unglobalcompact.org

