

## Fixed Income Work Stream: Discussion Paper

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## Introduction

Over the last year, the PRI Secretariat has been engaging with signatories on what responsible investing means to fixed income investors. During the course of these discussions, the Secretariat recognised that signatories required support to aid implementation of the Principles in this asset class. In response, the PRI Secretariat spent the first four months of 2011 speaking to a wide range of signatories in order to understand the challenges fixed income investors face when implementing the PRI. This paper summarises the findings from these discussions, with the objective of revealing the key areas where fixed income signatories have requested support.

With this background knowledge, it is hoped that by convening a working group of signatories, an agenda for the Fixed Income Work Stream can be defined and prioritised.

## What is a PRI Work Stream?

A work stream is a set of activities focused on a particular area that has been identified by the PRI Secretariat as one where specific implementation support is needed. By establishing a work stream, the PRI Secretariat, in partnership with signatories, can start to create the tools needed to help them with specific implementation needs. The outputs of a work stream can include, for example, webinars, case studies, guidance documents, fact sheets, surveys, events and communications.

PRI signatories can be involved in a work stream in a number of ways. They can:

- be part of a steering committee
- be part of a working group that is focused on a specific topic related to the work stream
- contribute to thought leadership by providing case studies highlighting current and emerging best practice
- raise awareness and drive debate by contributing to webinars and publications
- make use of any resources created

## The Fixed Income Work Stream

Fixed income has increased in popularity as an asset class in recent years. There is ample evidence to suggest that fixed income investments are growing as a share of total assets under management at many European and US pension funds. This may in part be due to widespread de-risking by institutional investors looking to move away from the volatility associated with equities in particular in the wake of the global financial crisis.

In response to signatory demand and the general growth in fixed income investments by the financial markets, the PRI is launching the Fixed Income Work Stream on 21 June 2011. The launch will take place with a half-day work shop where the findings of this paper will be discussed.

Key objectives for the work shop are:

- identifying challenges and opportunities relating to responsible investment and fixed income
- defining the objectives and outputs of the work stream over the near and medium term
- identifying the long term strategy of the work stream ie. where it should be positioned in three to five years
- proposing appropriate fixed income indicators to be included in the 2012 assessment survey to monitor progress

## The current state of play

Based on responses to the 2010 assessment survey, there are 209 signatories with over 25 per cent of their total assets under management invested in fixed income.<sup>1</sup> The Secretariat recognises that this figure does not reflect the different perspectives of asset owners and investment managers. However it does give a general indication of potential interest in the work stream.

Currently the PRI divides fixed income investments into two categories:

- corporate issuers
- sovereign and other non-corporate issuers

In practice, it appears that the majority of fixed income investments of signatories are in either corporate or sovereign bonds. However, there are many other types of fixed income investment available, including various types of loans, swaps and futures. A further consideration is where debt falls within a company's capital structure. The PRI Secretariat recognises that the work stream may evolve over time to consider the relevance of the Principles to this diverse range of instruments. However, at this stage, it may be sensible to focus on a selection of key categories of fixed income investment.

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<sup>1</sup> Given that signatories are not required to complete the survey during their first year as signatories, and the number of signatories has grown steadily in the last few years, the total number of current signatories who have investments in fixed income is likely to be significantly greater than this.

## Findings from the PRI's 2010 annual assessment process

Analysis of the 2010 annual assessment survey has highlighted certain indicators regarding the existing responsible investment practices of signatories. These include:

- 24 per cent of signatories with corporate fixed income investments say that they have incorporated their responsible investment policy 'to a large extent' into internal management processes for these assets
- 15 per cent of signatories with sovereign or other non-corporate fixed income investments say that they have incorporated their responsible investment policy 'to a large extent' into internal management processes for these assets
- 24 per cent of signatories that internally manage corporate fixed income assets say that that they integrate ESG issues into the investment decision making process for 100 per cent of those assets
- 16 per cent of signatories that internally manage sovereign or other non-corporate fixed income assets say that that they integrate ESG issues into the investment decision making process for 100 per cent of those assets
- 36 per cent of signatories with corporate fixed income investments say that they have a written engagement policy directing engagement on E, S or G issues

These statistics suggest that the implementation of the Principles in fixed income investments is challenging. Therefore, the PRI Secretariat invites working group participants to consider whether any of the areas mentioned above should be prioritised as areas of focus for the work stream.

The signatory consultation has helped to articulate these challenges. It also highlighted a range of responsible investment practices that fixed income investors could apply. The following sections provide more detail on the findings of this consultation.

## Current fixed income and responsible investment practices

PRI signatories use a range of responsible investment strategies to implement the Principles in fixed income including negative screening, positive screening, ESG integration, active ownership and thematic investing.

Table A provides examples of activities that signatories are undertaking to implement the Principles in relation to investments in corporate and sovereign bonds. Please note that the list is not exhaustive. Please also note that in many cases only a minority of signatories are undertaking these activities.

## Table A

### Aggregated list of actions that signatories may take to implement the PRI within fixed income investments

Aspect of PRI Framework	Corporate Bonds		Sovereign Bonds	
	Externally Managed	Internally Managed	Externally Managed	Internally Managed
<b>Governance, Policy and Strategy</b>	<ul style="list-style-type: none"> <li>• Create a responsible investment policy including or dedicated to fixed income; address ESG issues within the policy</li> <li>• Incorporate the RI policy into strategic and business planning for management of fixed income investments</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out research on the link between ESG integration and investment returns</li> <li>• Train analysts and portfolio managers on ESG matters</li> </ul>	<ul style="list-style-type: none"> <li>• Create a responsible investment policy including or dedicated to fixed income; address ESG issues within the policy</li> <li>• Incorporate the RI policy into strategic and business planning for management of fixed income investments</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out research on the link between ESG integration and investment returns</li> <li>• Train analysts and portfolio managers on ESG matters</li> </ul>

<p><b>Principle 1</b></p>	<ul style="list-style-type: none"> <li>• Issue RFPs requiring managers to disclose how they will incorporate ESG factors into their investments</li> <li>• Assess or rate managers against ESG criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Consider the extent to which credit ratings take ESG risks into account</li> <li>• Monitor issuers for ESG risks</li> <li>• Integrate analysis of ESG risks into security selection and portfolio construction</li> <li>• Screen issuers based on ESG or ethical criteria</li> <li>• Consider advice of credit rating agencies</li> <li>• Invest in environmental bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Issue RFPs requiring managers to disclose how they will incorporate ESG factors into their investments</li> <li>• Assess or rate managers against ESG criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Assess country ESG risk, by: <ul style="list-style-type: none"> <li>➢ Considering governance at a state or municipal level, taking into account e.g. fiscal policy and corruption indices</li> <li>➢ Reviewing social factors e.g. human rights, which may be linked to social cohesion</li> <li>➢ Considering the environmental footprint of issuers</li> </ul> </li> <li>• Consider international regulatory frameworks that may place a cost on ESG externalities eg. carbon allowances</li> <li>• Consider advice of credit rating agencies</li> <li>• Integrate analysis of ESG risks into security selection and portfolio construction</li> <li>• Screen countries based on ESG or ethical criteria</li> </ul>
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<p><b>Principle 2</b></p>	<ul style="list-style-type: none"> <li>• Develop an engagement policy that addresses ESG issues</li> <li>• Ask investment managers for periodic reports on engagement activities</li> </ul>	<ul style="list-style-type: none"> <li>• Develop engagement policy on specific ESG issues</li> <li>• Engage with issuers pre- issue to garner relevant information on ESG matters and address perceived risks</li> <li>• Engage with issuers post-issue to monitor management and address ESG issues identified before and/or after investment</li> <li>• Co-ordinate engagement across asset classes</li> </ul> <p>Engage with national authorities around capital market frameworks</p>	<ul style="list-style-type: none"> <li>• Consider if an engagement policy is appropriate for sovereign issuers</li> </ul>	<ul style="list-style-type: none"> <li>• Engage collaboratively or individually with finance ministries</li> <li>• Engage collaboratively or individually with other government agencies</li> </ul>
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<p><b>Principles 3 to 6</b></p>	<ul style="list-style-type: none"> <li>• Disclose responsible investment policy on corporate fixed income assets</li> <li>• Disclose policy on engaging with corporate fixed income issuers</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage companies to disclose ESG policies, practices and performance, including in relation to matters that are material to default risk</li> <li>• Join in collaborative engagements, including through the PRI</li> <li>• Publish an overview of the investment process and approach to considering ESG issues in corporate fixed income investments</li> </ul>	<ul style="list-style-type: none"> <li>• Disclose responsible investment policy on sovereign fixed income assets</li> <li>• Disclose any policy on engaging with sovereign fixed income issuers</li> </ul>	<ul style="list-style-type: none"> <li>• Provide an overview of the investment process and approach to considering ESG issues in sovereign fixed income investments</li> <li>• Publish responsible investment policy covering sovereign fixed income investments</li> <li>• Publish any engagement policy covering sovereign fixed income issuers</li> </ul>
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## Key challenges for fixed incomes investors

During the consultation with signatories there were several topics that kept re-emerging. These topics are summarised in Table B. Working group members are asked to consider which topics the work stream should focus on over the coming years.

**Table B**

### Common topics arising in signatory consultation regarding responsible investment and fixed income assets under management

Common topic	Summary of issues	Questions for consideration
<p><b>Evidence of ESG impact in fixed income investing</b></p>	<p>Some signatories put the argument forward that the primary goal of a bond investor is to mitigate downside risk, given that the potential upside is limited and more modest than in the case of investing in shares.</p> <p>It is therefore necessary to demonstrate that inclusion of ESG considerations in investment analysis and decision-making serves to reduce the default risk that an investor is exposed to. One avenue that the work stream might explore therefore is to assemble and/or facilitate research on the impact of responsible investing in fixed income portfolios.</p>	<ul style="list-style-type: none"> <li>• How do ESG issues have an impact on capital and interest returns in theoretical terms?</li> <li>• Are there any practical examples highlighting how ESG issues impact capital and/or interest returns?</li> <li>• What are the key pieces of research that have already been done in this area?</li> <li>• Where is such research lacking?</li> <li>• Are research consultancies able to assist here?</li> </ul>
<p><b>Shareholder and bondholder interests</b></p>	<p>Investors can often be holders of both equities and bonds issued by the same company. While there will often be overlap between the interests of shareholders and bondholders, this situation can also give rise to conflicts of interest. For example, academic research has</p>	<ul style="list-style-type: none"> <li>• How do the rights of bondholders and shareholders converge or diverge?</li> <li>• What are the conflicts of interest that can arise from holding both bonds</li> </ul>

	<p>indicated that credit ratings are higher for firms with a higher percentage of directors with 15 years of service on the board (among other factors reflecting board stability);<sup>2</sup> on the other hand, corporate governance guidelines designed to meet the interests of shareholders often stress the value of regular refreshment of the board. On a separate note, the announcement of new capital spending programmes may represent additional risk for bond holders, while equity investors focus instead on the potential rewards available through enhanced revenues and earnings.<sup>3</sup> The conflict can be intensified in distress situations, where shareholders may be more disposed to try to turn the business around while bondholders may prefer a winding-up to ensure where their capital outlay is repaid.</p>	<p>and shares in the ordinary course of business?</p> <ul style="list-style-type: none"> <li>• Do such conflicts manifest themselves differently for asset owners and investment managers?</li> <li>• What additional conflicts can arise in distress situations?</li> <li>• How is it possible to manage such conflicts?</li> </ul>
<p><b>Engaging as a corporate bondholder</b></p>	<p>Engaging with the management of companies is a well-established method for garnering information and addressing perceived ESG issues. Within publicly listed companies, the governance structures set out rules of engagement between the company and shareholders and manage conflicts of interest between shareholders. This, along with the availability of voting rights, creates a clear incentive for management to engage in the first place and then to listen to investors' concerns. Bondholders do not have these governance arrangements or voting rights at their disposal.</p>	<ul style="list-style-type: none"> <li>• Can engagement mitigate risk of default?</li> <li>• If so, is it only worth engaging pre-issue or can anything be done afterwards?</li> <li>• Is engagement less appropriate for bondholders given that they are parties to a contract rather than the owners of companies?</li> <li>• How do bondholders gain access to, and engage effectively with, management when they</li> </ul>

<sup>2</sup> Bradley, M., D. Chen, G. Dallas and E. Snyderwine. 2008. The effects of corporate governance attributes on credit ratings and bond yields. Working Paper, Fuqua School of Business, Duke University.

<sup>3</sup> The Co-Operative Asset Management. 2010. Responsible Investment Quarterly Review Winter 2010. [http://co-operativeassetmanagement.co.uk/downloads/CFS1473\\_TCAM\\_QR\\_Winter\\_WEB\\_AWK.pdf](http://co-operativeassetmanagement.co.uk/downloads/CFS1473_TCAM_QR_Winter_WEB_AWK.pdf)

	<p>This raises the question of how they can gain access to discussions with management and how best to make their case. With private companies, alongside the absence of voting rights, there is a fresh issue: the absence of the disclosure requirements imposed on public companies. Engagement may have a role to play in bridging this information gap.</p>	<p>do not have the governance arrangements and voting rights available to shareholders?</p> <ul style="list-style-type: none"> <li>• What role can engagement play in gaining information on private companies?</li> </ul>
<p><b>Corporate credit ratings and ESG</b></p>	<p>Many institutional investors draw on information provided by credit rating agencies. This raises the question of the extent to which agencies are factoring ESG considerations into their ratings. Ratings agencies encountered criticism in the wake of the financial crisis for their treatment of subprime mortgage derivatives, which gives this question added significance. At the same time it is arguable that investors have a responsibility to send clear signals if they want ratings to cover a broader range of variables.</p>	<ul style="list-style-type: none"> <li>• How are credit rating agencies integrating ESG risks into their corporate ratings?</li> <li>• Where are they falling short and are there any roadblocks to further progress?</li> <li>• Are there any lessons that can be drawn from the financial crisis in terms of structured products?</li> <li>• Are investors asking for ESG integration from ratings agencies?</li> <li>• To what extent is it reasonable for investors to substitute credit ratings for in-house analysis?</li> </ul>
<p><b>Responsible investing and sovereign bonds</b></p>	<p>ESG analysis obviously assumes a different scope and needs to entertain new considerations when applied to a state as opposed to a company. Assessment of governance may consider matters such as fiscal policy and corruption; the social dimension may review</p>	<ul style="list-style-type: none"> <li>• Can ESG issues have an impact on the creditworthiness of countries?</li> <li>• What might these impacts be?</li> <li>• How to obtain information</li> </ul>

	<p>democratic accountability and human rights; while the environmental aspect may take into account water stress and total carbon emissions.</p> <p>Accordingly developing the right tools to evaluate the impact of ESG factors on sovereign creditworthiness is a complex task. At the same time, the concept of engaging with sovereign issuers is evolving, both in terms of the very legitimacy of the exercise and in terms of whether and how investors may influence the decision-making of sovereign governments.</p>	<p>on government agencies where no ESG data or research is produced?</p> <ul style="list-style-type: none"> <li>• How do you assess the total effect of a complex array of ESG factors on sovereign default risk?</li> <li>• Is engagement with sovereign issuers a legitimate exercise for investors?</li> <li>• How can investors engage both effectively and responsibly with sovereign issuers?</li> </ul>
<p><b>Structured products</b></p>	<p>Fixed income derivatives have attracted controversy following the financial crisis. In particular, investors suffered significant losses as a result of their exposure to derivatives that were linked in an opaque fashion to subprime mortgages. In the US for example this was a major factor in the downfall of Lehman Brothers and the crisis endured by AIG. What lessons can be taken away from these events in terms of integrating ESG analysis into investments in credit default swaps and other derivatives?</p>	<ul style="list-style-type: none"> <li>• To what extent do investors currently extend ESG analysis to investment in derivatives?</li> <li>• Does the process by which a derivative is created from an underlying asset have implications for the relevant ESG analysis?</li> <li>• How can ESG analysis be used to ensure that derivatives serve as a hedge rather than an intensifier of risk?</li> <li>• Are there specific lessons that can be taken away from the financial crisis in terms of analysing the corporate governance practices along the investment chain?</li> </ul>

<p><b>ESG-related bond indices</b></p>	<p>Investors often utilise indices for the purposes of selection and benchmarking. There are some indices that provide information on bonds on the one hand and on the sustainability profile of companies on the other. However, there is currently a lack of indices that screen bond issuers or evaluate issuers according to sustainability criteria. While increasing investor interest in ESG integration within fixed income investing may provide a theoretical rationale for the development of such indices, index providers may want specific signals from investors before devoting resources to such an endeavour.</p>	<ul style="list-style-type: none"> <li>• Would a sustainability-linked bonds index be of value to investors in theoretical terms?</li> <li>• What is the level of demand for such an index from asset owners on the one hand and investment managers on the other?</li> <li>• Why have more indices of this kind not been developed so far?</li> <li>• How might such an index be constructed?</li> </ul>
<p><b>Environmental bonds</b></p>	<p>One way in which investors may integrate ESG analysis into their investment choices is through the acquisition of 'green' bonds, where the funds raised can be used to finance, for example, renewable energy infrastructure. There have been numerous moves to promote this form of finance recently, including by the World Bank and the European Investment Bank. A Climate Bonds Initiative has been set up to develop proposals for relevant financial architecture, bring key actors to the table and demonstrate how to 'engineer investibility through scaled-up mitigation and adaptation pilot schemes'.<sup>4</sup> Such bonds may represent an opportunity for investors to benefit from the increasing decarbonisation of the global economy. However,</p>	<ul style="list-style-type: none"> <li>• What are environmental bonds and what is the current value of the market?</li> <li>• What case can be made for thematic investments of this kind?</li> <li>• What are the obstacles to the growth of environmental bonds?</li> </ul>

<sup>4</sup> <http://climatebonds.net/about/>

	challenges remain, including those relating to liquidity and standardisation.	
<b>Academic research</b>	In many discussions, signatories highlighted demand for evidence to support the business case for incorporating ESG into fixed income investments.	<ul style="list-style-type: none"> <li>• What can the work stream do to capitalise on emerging academic work on the relevance of ESG to fixed income?</li> <li>• Can the work stream play a role in bridging the gap between academics and practitioners?</li> </ul>
<b>Outreach</b>	During the consultation signatories have emphasised the value of bringing large fixed income investors such as PIMCO and M&G into the PRI network.	<ul style="list-style-type: none"> <li>• Should this be an early priority for the work stream?</li> <li>• What fundamental resources, if any, should the PRI have in place before reaching out to these investors?</li> </ul>

## Conclusion

This paper has been written to inform participants in the working group about the actions signatories are currently taking to implement the Principles for fixed income assets under management. The challenges signatories are facing in their efforts to implement the Principles have also been considered. We hope that the resulting discussion will help to priorities areas of focus for the coming years.

## Appendix 1: Participants in Signatory Consultation

The PRI Secretariat would like to thank the following individuals for participating in the signatory consultation that took place from February to May 2011.

Henk Eggens, Harald Walkate and Roger Wildeboer Schut	Aegon Asset Management
Adam Kirkman	AMP Capital
Shade Duffy, Pascale Sagnier and Lise Moret	AXA Investment Managers British Telecom Pension Scheme Calvert Investments
Helene Winch	British Telecom Pension Scheme
Lily Donge, Paul Hiltion and Cathy Roy	Calvert Investments
Erol Bilecen	Bank Sarasin
Jean Boissoneault and Marie-Claude Provost	Caisse de depot et placement du Quebec
Ran Fuchs	Citco
Sean Kidney and Nick Silver	Climate Bonds Initiative
Nick Edgerton	Colonial First State Global Asset Management
Sandra Carlisle, George Dallas and Juan Salazar	F&C Management
Mathis Wackernagel	Global Footprint Network
Gianfranco Gianfrate and Paul Lee	Hermes EOS
Iain Cowell	Hermes Fund Managers
Mitch Reznick	Hermes OCL
Bill Mills	Highland Good Steward Management
Xavier Desmadryl	HSBC Global Investment Business

David Averre and Andy Evans	Insight Investment KfW
Solveig Pape-Hamich	Bankengruppe Munich
Klaus Chavanne and Erich Rombach	Reinsurance AG
Jane Ambachtsheer, Danyelle Guyatt and Will Oulton	Mercer Investment Consulting
Thomas Kuh	MSCI
Chris Balance and Christie Stephenson	NEI Investments
Ebba Schmidt	Pension Protection Fund
Kristin Parello-Plesner	PFA Pension
Erik Breen	Robeco
Craig MacKenzie	Scottish Widows Investment Partnership
Phil Preston	Seacliff Consulting
Peter Chapman	Shareholder Association for Research and Education
Manuel Adamini and Yvonne Janssen	SNS Asset Management
Matthew McAdam	Standard and Poor's
Roger Otten	Stichting Philips Pensionfoends
Ivo Mulder	UNEPFI

## Appendix 2: Resources

A list of resources relevant to responsible investment in the fixed income asset class is provided below.

### Academic Research

Links to the free online versions are provided wherever possible.

Argandoña, A. 2009. Can corporate social responsibility help us understand the credit crisis? Working Paper, IESE Business School, University of Navarra.

<http://www.iese.edu/research/pdfs/DI-0790-E.pdf>.

Bauer, R., J. Derwall and D. Hann. 2009. Employee relations and credit risk. Working Paper, European Centre for Corporate Engagement, Maastricht University.

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1483112](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1483112).

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[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1660470](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1660470).

Bhojraj, S. and P. Sengupta. 2003. Effect of corporate governance on bond ratings and yields: The role of institutional investors and outside directors. *Journal of Business*, 76, no. 3: 455-475.

Bradley, M., D. Chen, G. Dallas and E. Snyderwine. 2008. The effects of corporate governance attributes on credit ratings and bond yields. Working Paper, Fuqua School of Business, Duke University.

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1327070](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1327070).

D'Antonio, L., T. Johnsen and R. B. Hutton. 1997. Expanding socially screened portfolios: An attribution analysis of bond performance. *Journal of Investing*, 6, no. 4: 79-86.

De Franco, G., Vasvari, F., Dushyantkumar, V., Wittenburg-Moerman, R. 2010. A Debt Analyst's View of Debt-Equity Conflicts of Interest.

Drut, B. 2009. Sovereign bonds and socially responsible investment. Working Paper, Centre Emile Bernheim, Solvay Brussels School of Economics and Management, Université Libre de Bruxelles.

[http://www.unpri.org/files/Drut\\_PRI2009.pdf](http://www.unpri.org/files/Drut_PRI2009.pdf).

Goss, A. and G. S. Roberts. 2009. The impact of corporate social responsibility on the cost of bank loans. Unpublished Working Paper, Schulich School of Business, York University.

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=955041#PaperDownload](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=955041#PaperDownload).

- Klock, M. S., S. A. Mansi and W. F. Maxwell. 2005. Does corporate governance matter to bondholders? *Journal of Financial and Quantitative Analysis*, 693-719, no. 40: 4.
- Menz, K.-M. 2010. Corporate social responsibility: Is it rewarded by the corporate bond market? A critical note. Forthcoming in *Journal of Business Ethics*.
- Nini, G., Smith, D., Sufi, A..2010. Creditor Control Rights, Corporate Governance and Firm Value.  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1344302](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1344302)
- Prior, F. and A. Argandoña. 2008. Best practices in credit accessibility and corporate social responsibility in financial institutions. *Journal of Business Ethics*, 87, no. 1: 251-265.
- Schneider, T. E. 2010. Is environmental performance a determinant of bond pricing? Evidence from the U.S. Pulp and paper and chemical industries. Working Paper, University of Alberta.  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1299761](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1299761).
- ten Kate, K. and A. Evans. 2006. Integrating governance, social, ethical and environmental issues into the corporate bond investment process. In *Responsible investment*, eds. Sullivan R and Mackenzie C, 92-102. Sheffield: Greenleaf.
- Valor, C., R. Palomo, J. Iturrioz and J. & L. Mateu. 2007. Socially responsible investments among saving banks and credit unions: Empirical findings in the Spanish context. *Annals of Public and Cooperative Economics*, 78, no. 2: 301-326.
- Weber, O., M. Fenchel and R. W. Scholz. 2008. Empirical analysis of the integration of environmental risks into the credit risk management process of European banks. *Business Strategy and the Environment*, 17, no. 3: 149-159.

## Corporate Publications

- J.P.Morgan. 2006. Credit Derivatives Handbook.  
[https://www.einstitutional.com/geodesicweb/papers/JPMorgan\\_CDS.pdf](https://www.einstitutional.com/geodesicweb/papers/JPMorgan_CDS.pdf)
- Ceres. 2010. The Ripple Effect: Water Risk in the Municipal Bond Market  
<http://www.ceres.org/press/press-releases/new-report-growing-water-scarcity-in-us-is-hidden-financial-risk-for-investors-owning-utility-bonds>
- Standard and Poor's and World Resources Institute. 2011. How US federal climate policy could affect chemicals' credit risk.  
[http://pdf.wri.org/how\\_us\\_federal\\_climate\\_policy\\_could\\_affect\\_chemicals\\_credit\\_risk.pdf](http://pdf.wri.org/how_us_federal_climate_policy_could_affect_chemicals_credit_risk.pdf)