PRI Principles for Responsible Investment

UNEP FINANCE INITIATIVE | United Nations Global Compact

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

SHIFTING PERCEPTIONS:

ESG, CREDIT RISK AND RATINGS

PART 2:

EXPLORING THE DISCONNECTS

With support from The Rockefeller Foundation

The Rockefeller Foundation

UN environment

Inquiry: Design of a Sustainable Financial System

THE SIX PRINCIPLES

PREAMBLE TO THE PRINCIPLES

As institutional investors, we have a duty to act in the best long-term interests of our beneficiaries. In this fiduciary role, we believe that environmental, social, and governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time). We also recognise that applying these Principles may better align investors with broader objectives of society. Therefore, where consistent with our fiduciary responsibilities, we commit to the following:

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.

PRI's MISSION

We believe that an economically efficient, sustainable global financial system is a necessity for long-term value creation. Such a system will reward long-term, responsible investment and benefit the environment and society as a whole.

The PRI will work to achieve this sustainable global financial system by encouraging adoption of the Principles and collaboration on their implementation; by fostering good governance, integrity and accountability; and by addressing obstacles to a sustainable financial system that lie within market practices, structures and regulation.

CONTENTS

ACKNOWLEDGEMENTS

The PRI would like to thank the Advisory Committee on Credit Ratings (ACCR) and its chair, My-Linh Ngo, Head of ESG Investment Risk at BlueBay Asset Management, for their time, guidance and commitment to the ESG in Credit Ratings Initiative. Thank you also to all PRI signatories that signed the ESG in Credit Ratings Statement and hosted the forums, to those who provided case studies as well as to the credit rating agencies (CRAs) for sourcing expert credit analysts for the roundtables. The organisations that hosted the forums and the participants are listed in Appendix 3. Finally, the PRI would like to thank The Rockefeller Foundation for the financial resources it provided towards this project.

EXECUTIVE SUMMARY

The PRI ESG in Credit Ratings Initiative is facilitating system-level change. The first of its kind at this scale, credit practitioners from investors and credit rating agencies (CRAs) are uniting to discuss environmental, social and governance (ESG) topics. Following the 2017 publication of Shifting perceptions: ESG, credit risk and ratings – part 1: the state of play, the PRI organised a series of roundtables, the findings of which form the basis of this report.

Although ESG factors are not new to credit risk analysis, the extent to which they are explicitly and systematically considered by fixed income (FI) investors *is*. They are also of increasing interest to policy makers amid growing realisation that ESG issues, such as climate change, can represent systemic risks to financial markets.

Ongoing dialogue is beginning to address misconceptions, including the difference between assessing the impact of ESG factors on credit risk and evaluating a bond issuer's ESG exposure, or versus rules-based investing (such as exclusion). It is also highlighting the progress that CRAs – particularly the bigger players – are making through research and organisational changes, as well as transparency-related efforts and more explicit reference to ESG factors when these contribute to rating actions. Finally, it is drawing attention to new CRAs – some of which are not regulated yet – that provide dedicated ESG risk assessments or augmented analyses of creditworthiness.

Roundtable attendees generally agreed that, although considering ESG factors in FI assets is primarily a tool to manage downside risks, it is also becoming more valuable to enhance returns or for relative value investment strategies, as well as to highlight the importance of bondholder engagement. Commercial pressures from rising client demand are also mounting.

The roundtables were structured around the four investor-CRA disconnects identified in part one of the report series; but the discussions revealed that, more than just disconnects, these are common challenges that credit practitioners on both sides are encountering as they try to make ESG consideration more prominent or rigorous. Below are some highlights:

MATERIALITY OF ESG FACTORS TO CREDIT RISK

- While an assessment of governance factors has traditionally featured in credit risk analysis, both sides concur that they are in the early phase of formalising a systematic approach to considering environmental and social factors. Assessing *where* these are relevant and *how* they can impact balance sheets and cash flow projections needs more work. Participants discussed the value of using them as early indicators such as through exposing inadequate management oversight and potentially anticipating deteriorating credit conditions – even before traditional financial metrics worsen.
- The materiality of ESG issues from a credit risk perspective depends on many factors, such as the financial profile of an entity, its sector and geographical location, as well as the type and characteristics of a bond. Moreover, on the environmental front, the importance of differentiating between physical and transition risks (including policy developments) was highlighted.

RELEVANT TIME HORIZONS TO CONSIDER

- There is no silver bullet to identify the right time horizon over which to assess ESG factors in credit risk analysis. However, participants considered the benefits of gathering insight about future environmental and social policies to better evaluate the quality of governance, as well as the sustainability of business models.
- Due to the multi-dimensional nature of ESG factors, difficulties in modelling non-financial factors and capturing data interdependencies were cited among the biggest obstacles to ESG consideration in credit risk analysis. Specifically, the interplay between the following was flagged: 1) the long-term structural trends that tend to influence ESG risks; 2) the probability that ESG-related incidents will materialise and when; 3) the risk of these incidents reoccurring, and 4) their impact on an issuer's credit fundamentals and its ability to adjust its business model by buying or selling companies and introducing or reacting to disruptive technology.

ORGANISATIONAL APPROACHES TO ESG

- Expertise and resources are improving among both investors and CRAs, particularly where there is senior management buy-in. The level of CRA participation and backing of the roundtables is a testament to this. However, building a formal framework to ensure that credit analysts systematically consider ESG factors is still a work in progress. Different approaches that could be taken were considered, including developing skills in-house, insourcing external expertise or outsourcing on an ad-hoc basis.

- Overcoming internal inertia is another obstacle. While some investors and CRAs are making headway, for other market players breaking down barriers, addressing siloed work practices and securing internal buy-in is challenging. Another hurdle is how to incentivise and reward analysts that are the best at unlocking ESG value because it can take decades for corporate strategies to produce tangible results, or for blow-up events to materialise.

COMMUNICATION AND TRANSPARENCY

- Communication and transparency specifically on ESG topics has been limited until recently, partly due to a lack of meaningful outreach or engagement, which is now improving. Gaps exist at different levels of the investment chain – not only between investors and CRAs but between asset owners (AOs) and asset managers (AMs) and, ultimately, bond issuers. Few participants were aware that some CRAs are making ESG factors more transparent in their methodologies and research, and of the rating changes which have occurred as a result.
- Several options on how to improve CRA communication were discussed, including how they present ratings and signal long-term risks. Ideas ranged from a separate ESG section within credit opinions to sectoral and scenario analysis. The benefits and drawbacks of a built-in approach, which is integrated but more challenging to demonstrate, were considered versus an add-on approach. Attendees reflected on their role in enhancing issuer ESG data disclosure.

Observations from the roundtables are complemented by examples from CRA credit rating opinions or recent research and eight investor case studies demonstrating how ESG factors can affect the assessment of creditworthiness. A section of the report is on the automotive sector – the focus of the Frankfurt roundtable – as this industry lends itself as a good example of the interplay between ESG factors in corporate credit risk. Finally, the report is corroborated by the results of a survey that participants were asked to take before attending the roundtables.

The forums focused on ESG factors in corporate credit risks but began considering asset classes, touching on some of the differences between corporate and sovereign credit risk. Part three in the series will report on these as well as explore the solutions that started to emerge to address the challenges faced by credit practitioners.

As ever, we welcome feedback on our work and encourage you to help drive the ESG in Credit Ratings Initiative forward.

INTRODUCTION

THE ESG IN CREDIT RATINGS INITIATIVE

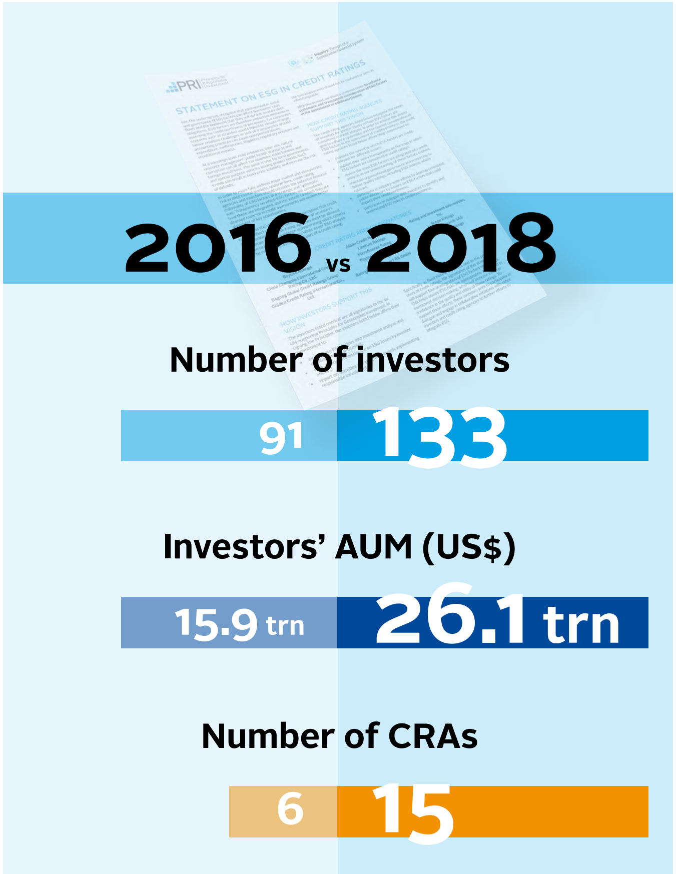
This is the second report in a three-part series and the output of a project which started in 2015 when, following an investor survey, the PRI assembled a working group to improve understanding of how ESG factors affect credit risk analysis.

In May 2016, the ESG in Credit Ratings Statement was launched for investors and CRAs to publicly state their recognition of the value of considering ESG factors transparently and systematically in credit risk analysis. The statement is still open to sign and its roster of signatories is expanding rapidly (see Figure 1).

The ACCR was formed in late 2016. Under its guidance, another milestone was reached in July 2017 with the publication of [Shifting perceptions: ESG, credit risk and ratings – part 1: the state of play]().

Based on the findings from stakeholder interviews, the PRI Reporting Framework data, investor survey and research review, part one concluded that ESG consideration in credit risk is still incipient or limited for most market players. However, the report found that efforts are gaining traction, with investors and CRAs beginning to expand resources including towards human capital. It highlighted the drivers of stewardship such as climate change and corporate scandals which contributed to the global financial crisis, as well rising investor demand for ESG-linked assets.

Figure 1: Signatories of the ESG in Credit Ratings Statement since its launch in May 2016



INTENSIFYING REGULATORY FOCUS

The PRI was among the first organisations to recognise the importance of engaging with CRAs and investors to advance understanding of the impact of ESG factors on credit risk assessment, improve risk-adjusted capital allocation and promote sustainable investing. More recently, regulatory pressures have also been building up in Europe: the EU High-Level Expert Group on Sustainable Finance featured a section on credit rating and sustainability rating agencies, and provided recommendations for the subsequent EU Commission Action Plan, published in March 2018.

The EU Commission is now taking time to assess current practices and plans to engage with all relevant stakeholders to explore the merits of amending the Credit Rating Agency Regulation. It has charged the European Securities and Markets Authority (ESMA) with the task of assessing current practices in the credit rating market and of including environmental and social sustainability information in its guidance on disclosure for CRAs. Finally, it has commissioned a comprehensive study on sustainability ratings and research. The exploratory period that the Commission has set itself before introducing concrete steps will hopefully highlight the changes that stakeholders are embracing, including those that the PRI is catalysing through the ESG in Credit Ratings Initiative[1].

1 See also 'Momentum shifts towards more integration of sustainability in credit ratings', Responsible Investor, 15 March 2015.

NURTURING INVESTOR-CRA DIALOGUE

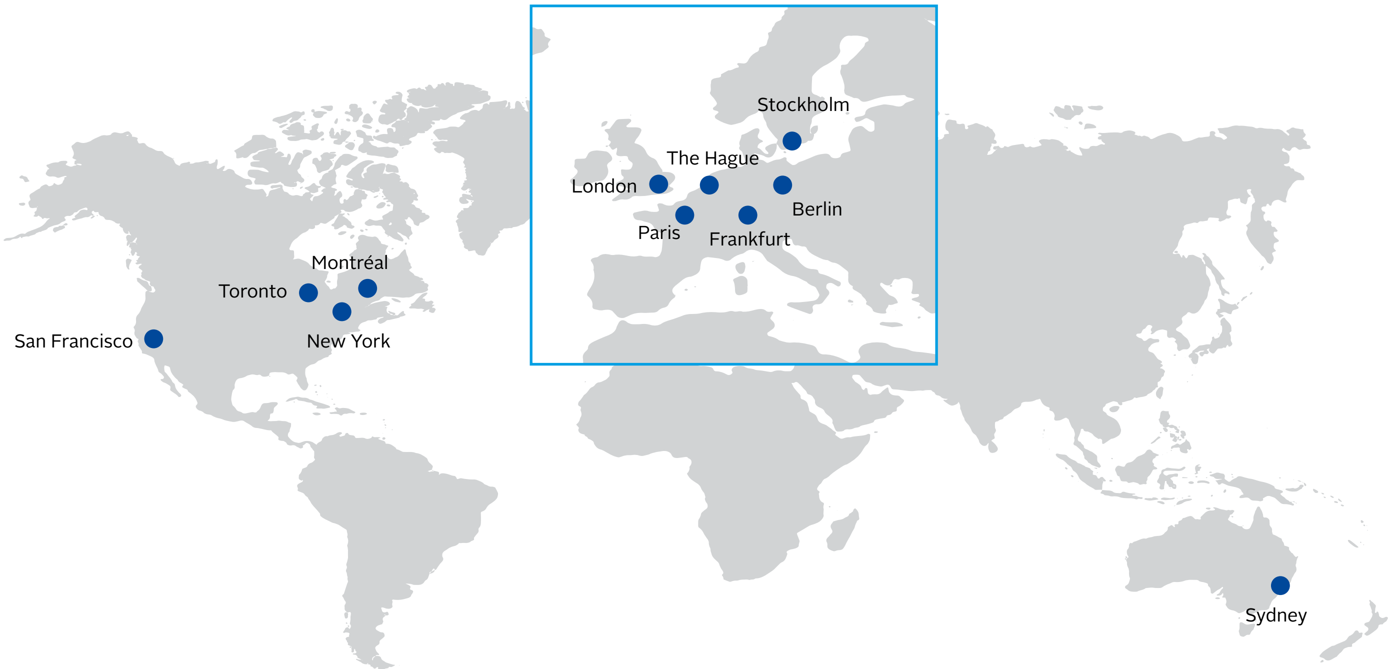
Despite highlighting encouraging progress, part one concluded that ESG consideration by credit practitioners is still far from systematic and that communication must improve further. Part two aims to test those findings from a wider CRA and investor sample compared to that which was used previously.

It also comes as the need to better assess credit risk in line with fundamentals is intensifying with the ongoing unwinding of quantitative monetary policy easing (QE) in several large countries. Yields are normalising after an unprecedented compression which boosted risk appetite and demand for high-yield (low credit-rated) investments in search for income. As a result, the case to identify red flags to price risks more adequately has become more compelling.

Specifically, this report is based on:

- **PRI forums for credit practitioners**: these events were a unique opportunity to engage a wider and more credit risk-focused audience of investor and CRA professionals;
- **responses from a PRI survey taken by investor attendees**: please click here for the full results[2]; and
- **case studies**: these were provided by participants during or after the events and give examples of recent progress, as well the challenges at stake.

Figure 2: PRI ESG in credit risk and ratings forums



2 Participants to the PRI in Person 2017 conference in Berlin did not take the survey.

THE PRI FORUMS

- **Location:** the PRI organised 11 events in Western Europe, North America and Australia between September 2017 and February 2018[3] (see Figure 2).
- **Format:** almost all the forums were in a roundtable format to facilitate group discussions, preceded by a short introduction on the ESG in Credit Ratings Initiative and a presentation by CRA representatives to bring investors up to speed on the latest developments.
- **Participants:** the number of attendees was limited to 20-30 to facilitate active participation[4]. Most were senior credit analysts and FI portfolio managers, and a small number of ESG analysts. They primarily belonged to AMs (although in some events AOs also participated). CRA representatives were senior credit officers, criteria officers or heads of research departments.[5]
- **Focus:** with the exception of the Berlin, London and Paris events, where sovereign credit risk was considered, the focus of the sessions was on corporate credit risk. This was because it was not possible to have corporate and sovereign CRA officers at all events. However, we plan to revisit sovereign credit risk in more depth, and consider its links with corporate credit risk. Indeed, the topic generated significant interest.
- **Chatham House Rule:** quotes and comments cited in this report have not been attributed to specific individuals or organisations.

3 The PRI organised nine roundtables (in the Hague, Toronto, Montreal, New York, Stockholm, London, Paris, Frankfurt and Sydney) and two panel sessions at the Berlin PRI in Person Conference in September 2017 and at the PRI San Francisco event on 'Responsible Investment in Fixed Income: the Road Ahead' in January 2018. It is planning more roundtables in the second half of 2018. Check www.unpri.org/credit-ratings for a list of forthcoming events or to access the recordings of the San Francisco conference.

4 The exception was the Paris roundtable where there were nearly 50 participants.

5 Representatives of Moody's Investors Service and S&P Global Ratings participated in all roundtables. Beyond Ratings and Scope Ratings joined the London and Paris roundtables. Scope Ratings was also present at the Frankfurt roundtable, with Rating-Agentur Expert AG and Dagong Europe Credit Ratings Srl. Finally, two CRAs which are not signatories to the ESG in Credit Ratings Initiative, Fitch Ratings and Dominion Bond Rating Service (DBRS) Ltd, participated in the London and Canadian roundtables, respectively. The statement remains open to them.

EXPLORING THE DISCONNECTS

ESG factors are not new to credit risks analysis, but ESG as a systematic analysis framework *is*. As a result, the roundtables focused largely on the challenges that practitioners are encountering as they try to make these considerations more explicit or rigorous.

Importantly, the debate started to help clarify that incorporating ESG consideration in credit risk analysis should not be confused with investment strategies that target social or environmental returns in addition to a financial return (through impact investing, for example), or those that are dictated by thematic strategies or screening rules aligned with investor beliefs.

> We have to distinguish ESG integration from ethical or impact investing
>
> UK AM

Rather, the roundtables discussed how ESG consideration is a framework that helps investors to price, and CRAs to rate, risks accurately. It can be used as a portfolio optimisation tool in mainstream FI investing and not necessarily as a strategy, as practitioners fulfil their accountability, due diligence and fiduciary duties. The credit risk/return may be attractive, even once relevant ESG consideration is factored into cash flow projections and the discount rate.

The two approaches are not mutually exclusive, though. Indeed, for some roundtable participants, ESG integration in mainstream investing is the result of an evolutionary process which began with rules-based investing.

As a starting point, the discussions were structured around the four main investor-CRA disconnects which part one highlighted:

1. **Materiality of ESG factors to credit risk**
2. **Relevant time horizons to consider**
3. **Organisational approaches to ESG consideration**
4. **Communication and transparency**

During the discussions, it emerged that, more than just disconnects, these are challenges shared by credit practitioners on both sides.

> CRAs are facing the same challenges as investors
>
> Canadian AM

When collecting feedback at the end of the sessions, views on the value of the events included:

- having the time and space to articulate – among peers – how ESG factors impact credit risk;
- observing that practitioners face similar difficulties;
- engaging directly with CRAs and learning about their new resources, and for CRAs to better understand the needs of investors; and
- for AOs, providing necessary background against which to ask AMs more insightful questions.

THE REGIONAL PERSPECTIVE

Regionally, the biggest surprise was how quickly this topic is gaining traction in North America. In Canada, investor awareness has been increasing over the years and is now coupled by recent regulatory changes[6]. In the US, competitive issues driven by client demand also appear at play. This is encouraging, as North America is home to large AOs and some of the world's biggest FI investment managers. Furthermore, it has a comparatively bigger and more liquid bond market.

Having started considering ESG factors earlier than elsewhere in Europe, French, Dutch and Nordic investors are comparatively more advanced. In France, the integration process has been spurred by investor reporting obligations under Article 173 of France's law on energy transition for green growth[7]. In Sweden and in the Netherlands, normative-based approaches have been the precursor of more mainstream ESG investing and engagement practices are more established.

Finally, the Sydney roundtable registered the highest number of AOs. Their contribution highlighted that AOs are not yet clear about what to ask external FI managers about their approach to ESG consideration when they appoint them, nor how to ensure they comply with ESG policies. Many admitted that ESG consideration in credit risk is a new area and are requesting guidance.

6 In 2016, Ontario was the first Canadian province to require local pension funds to disclose the extent to which they invest sustainably, and, if so, how ESG factors are incorporated into their investment policies. This is resulting in improved disclosure by smaller pension funds, as larger players had already started this practice before the new regulation. Furthermore, in 2017, the Canadian Securities Administrators launched a climate change disclosure review project, partly in response to large institutional investor demands for improved reporting in this area.

7 See also French energy transition law: global investor briefing on Article 173, the PRI, 22 April 2016.

DISCONNECT 1:
MATERIALITY OF ESG RISK

KEY MESSAGES:

- ESG in credit risk analysis is seen as a useful tool to manage downside risks but increasingly appreciated as a way to generate alpha.
- Governance is a relevant credit factor for all issuers. The materiality of environmental and social factors depends on their severity and on an issuer's sector and geography.
- Building an incrementally more quantitative ESG framework is the current biggest challenge credit practitioners face.

WHAT WE OBSERVED:

One size does *not* fit all. When discussing the materiality of ESG factors to credit risk, participants recognised that no two investors have the same wants and needs. Their motivations, investment objectives (for example, some seek more duration than others and consequently are more sensitive to long-term risks), mandates (investment-grade versus high-yield) and strategies (alpha versus beta investing) must all be considered.

Not only a risk management tool. Most participants agreed that ESG consideration is helpful to manage downside risks but some are beginning to use it to enhance portfolio returns. The most advanced investors have started to create proprietary internal credit scores to monitor risks as well as to underweight or overweight securities.

Governance is key. Participants concurred that governance plays the most critical role in credit risk analysis. This is because it influences management decisions, including: business development strategies; environmental and labour force policies; size, diversification and competitive position; and financial policy (including the degree of leverage) (see Figure 3). Strong and transparent governance can help to mitigate risks, including those related to fraud, and reduces conflicts of interest.

Need for systematic scrutiny. Attendees agreed that environmental and social factors must be scrutinised more systematically, particularly as leading indicators of future risks and opportunities. There have been few cases where an issuer has defaulted as a result of environmental and social incidents, but the latter have sometimes acted as early warnings of shortfalls in governance.

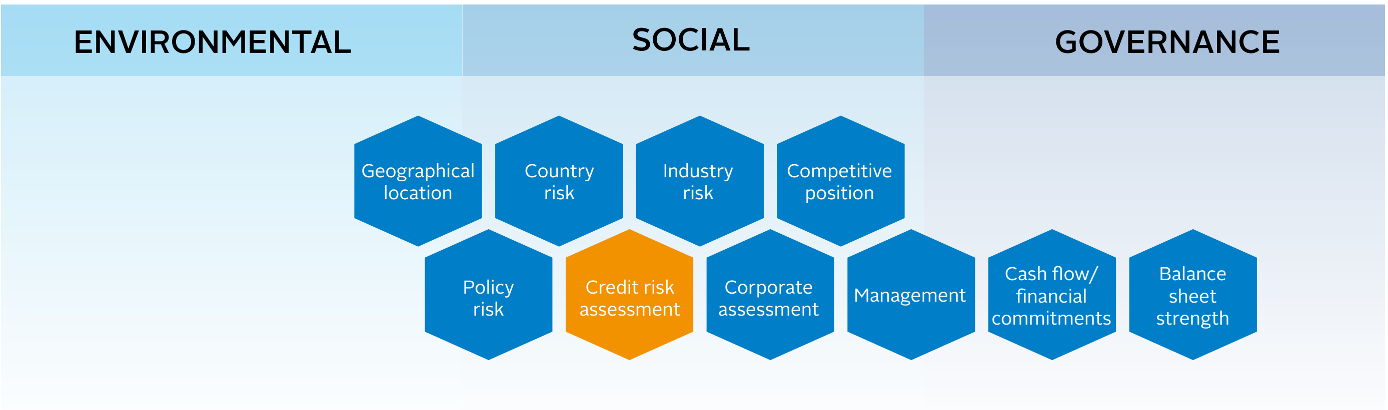
> ESG is just as important for fixed income as equities, to say otherwise is to show a lack of understanding of how markets work
>
> UK AM

Sectoral and regional relevance. There was strong agreement that the materiality of environmental and social factors depends on sectors and regions. Participants believed more research is needed in both areas (see Figures 4-7). Most were unaware of the research notes that CRAs have started to publish, particularly on issues related to climate change. Likewise, few attendees – with the exception of the US roundtable – knew about the work that the Sustainability Accounting Standard Board (SASB) is conducting at the industry and sector level, which can be a useful starting point. Indeed, the SASB has already elaborated on sustainability accounting standards for 79 industries in 11 sectors, helping public corporations disclose financially material information to investors.

> Lots of ESG considerations are surveilled, but not all are material or may not be material...yet
>
> Canadian AM

Augmented risk analysis. There is growing awareness of the need to broaden risk analysis. Participants concurred that they should be on the lookout for new threats as the ESG landscape evolves. On the environmental front, attention should go beyond pollution and CO_2 emissions to also focus on issues such as plastic waste and water scarcity. In terms of governance and social issues, there are emerging risks that should be monitored, with cyber security a hot topic.

Figure 3: The materiality of ESG factors in credit risk analysis is part of a mosaic, entering at different levels of the assessment. Source: various CRA methodologies and PRI roundtable discussions



> Social issues are the most difficult to define, and perhaps the most controversial
>
> French AM

CHALLENGES

Building a framework. Participants generally agreed that ESG integration in credit risk analysis has been done more or less intuitively so far, but that it is slowly becoming more structured and requires more quantitative work. Several challenges were identified, including defining relevant metrics, the accessibility and reliability of data, and the need to be more disciplined in incorporating non-financial factors in risk assessment. Another challenge relates to modelling new risks for which past data may not be useful. More positively, making ESG analysis more quantitative going forward should become easier as corporate disclosure increases. Some investors observed that this is already happening with environmental factors in light of proliferating data, and that lessons can be learned for governance and social factors too.

Plurality of reporting requirements causing inconsistency and comparability issues. During one of the roundtables it was highlighted that the Governance and Accountability Institute found that 82% of S&P 500 companies issued CSR or sustainability reports in 2016 versus just 20% in 2011. However, standardisation will only take shape when it is adopted at scale by all corporates, and adoption will only happen once a standard is accepted. The latter could be helped by adherence to the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD).

Assessing the sustainability of business models. On the one hand, practitioners discussed the need to be able to identify new trends and gain a better understanding of the impact of new technologies, products and potential regulatory changes. On the other hand, they need to be able to anticipate when these disruptors are relevant enough to impact credit risk.

Moving away from geographical comfort zones. Participants observed that some investors may miss opportunities because they tend to prefer local issuers, as they are more familiar with local management, their modus operandi and jurisdiction – a point discussed in Canada and Australia in particular. In some countries, stewardship codes may provide reassurance, but there are only a few of them (such as in the UK or Japan).

A corollary to the above is how to asses multinationals. It was noted that with globalisation and in an era of fast information dissemination, contagion effects from incidents at offspring companies can be big for parent companies and vice versa.

Figure 4: The impact of climate change on credit ratings varies by sector. Source: How environmental and climate risks and opportunities factor into corporate ratings – an update, November 2017, S&P Global Ratings

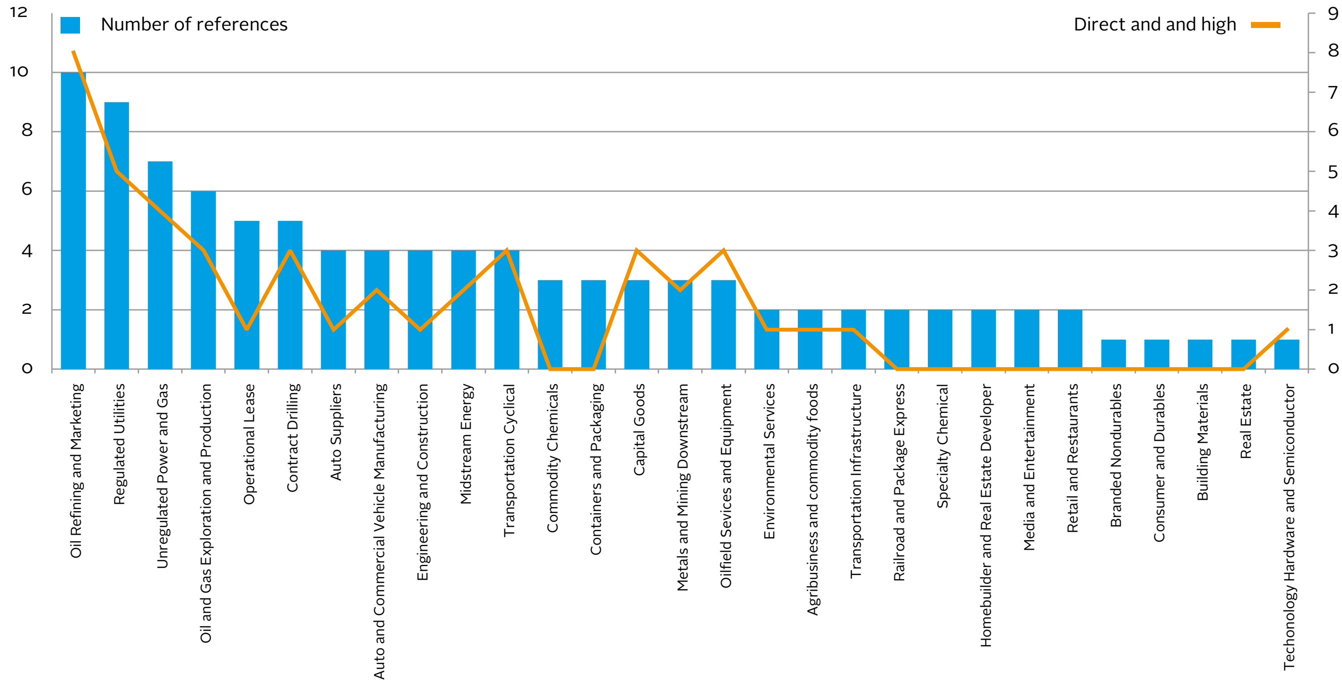


Figure 5: The relevance of social factors to credit risk also varies across industries. How environmental and climate risks and opportunities factor into corporate ratings – an update, November 2017, S&P Global Ratings

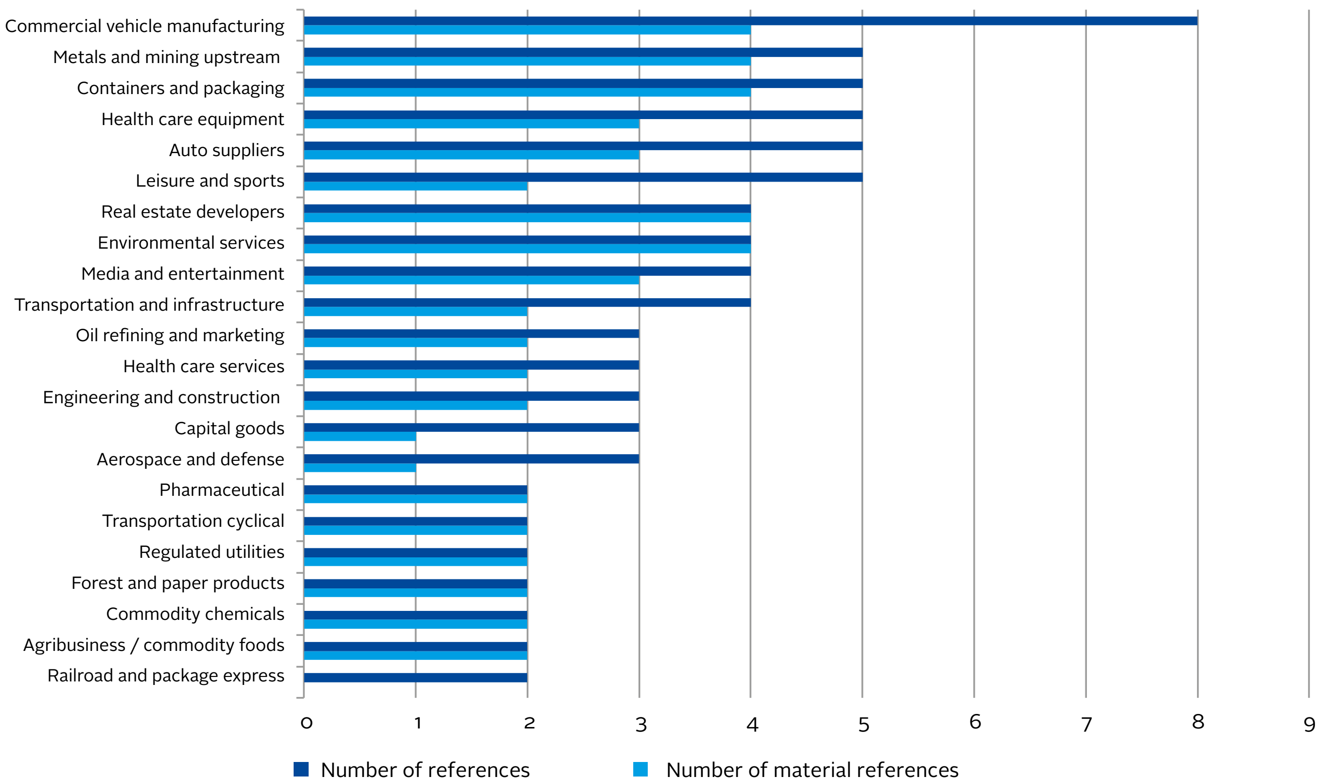


Figure 6: Illustration of how climate change can financially impact the property and casualty (P&C) insurance sector. Source: 'Climate change risks outweigh opportunities for P&C (re)insurers', 15 March 2017, Moody's Investors Service

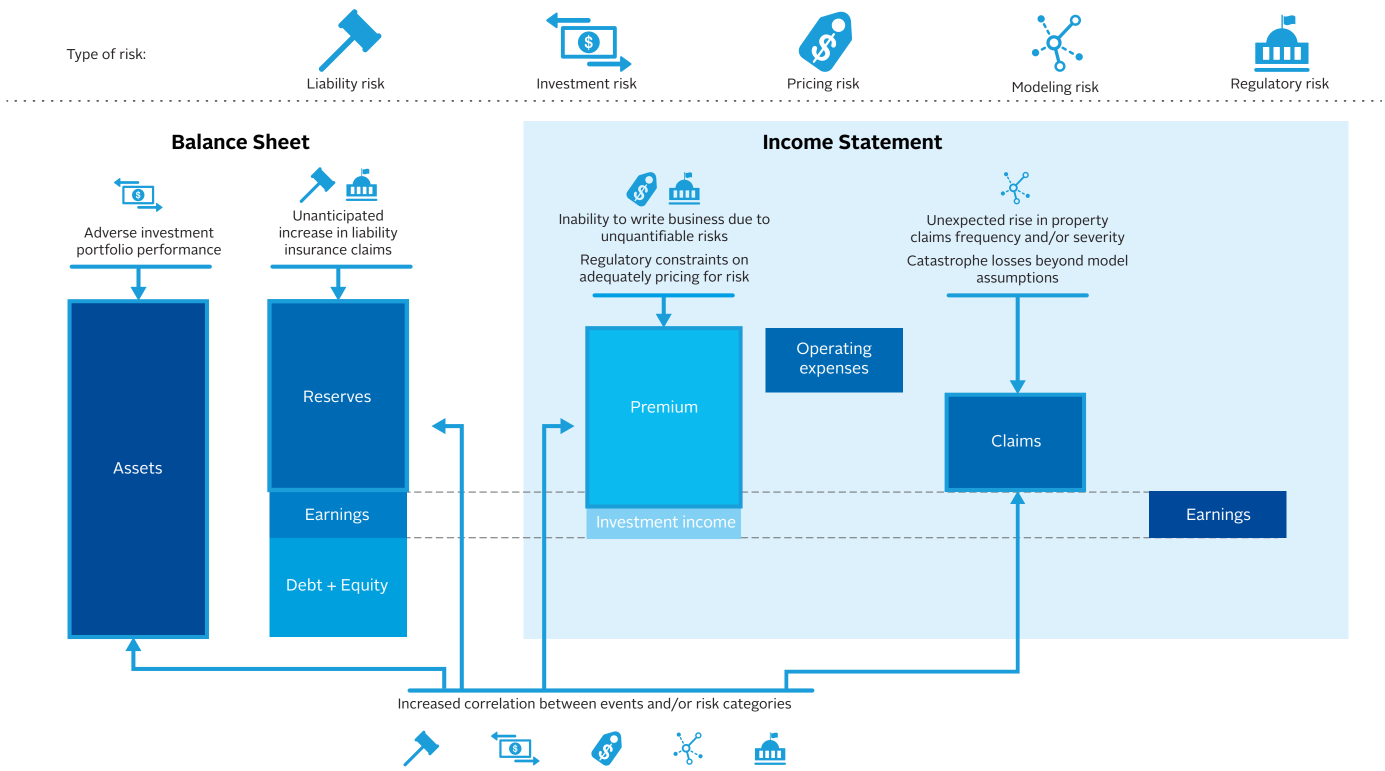
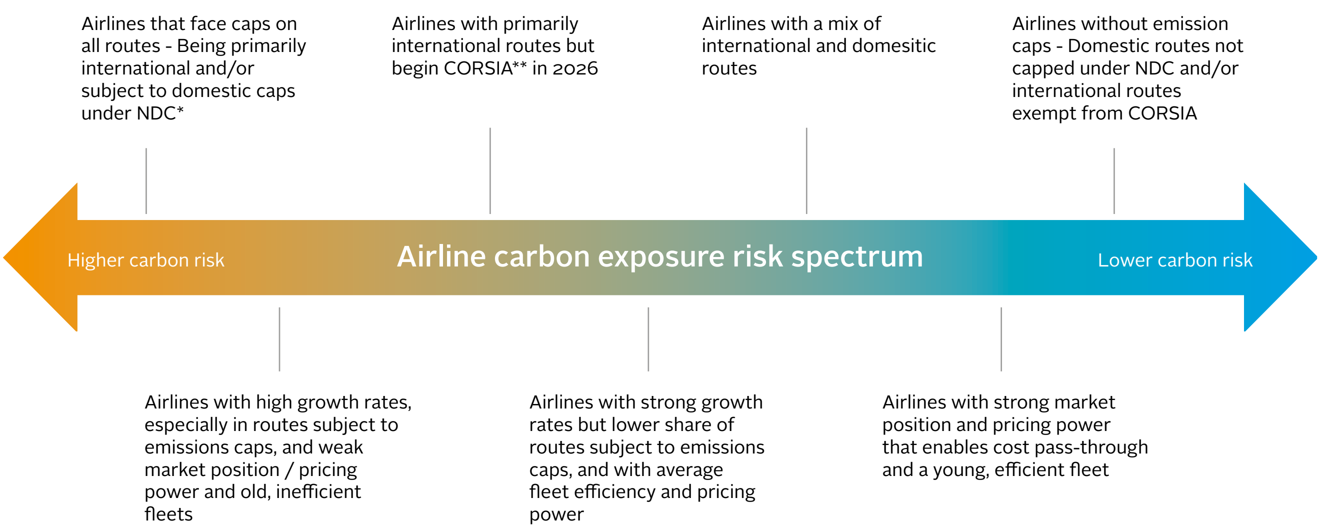


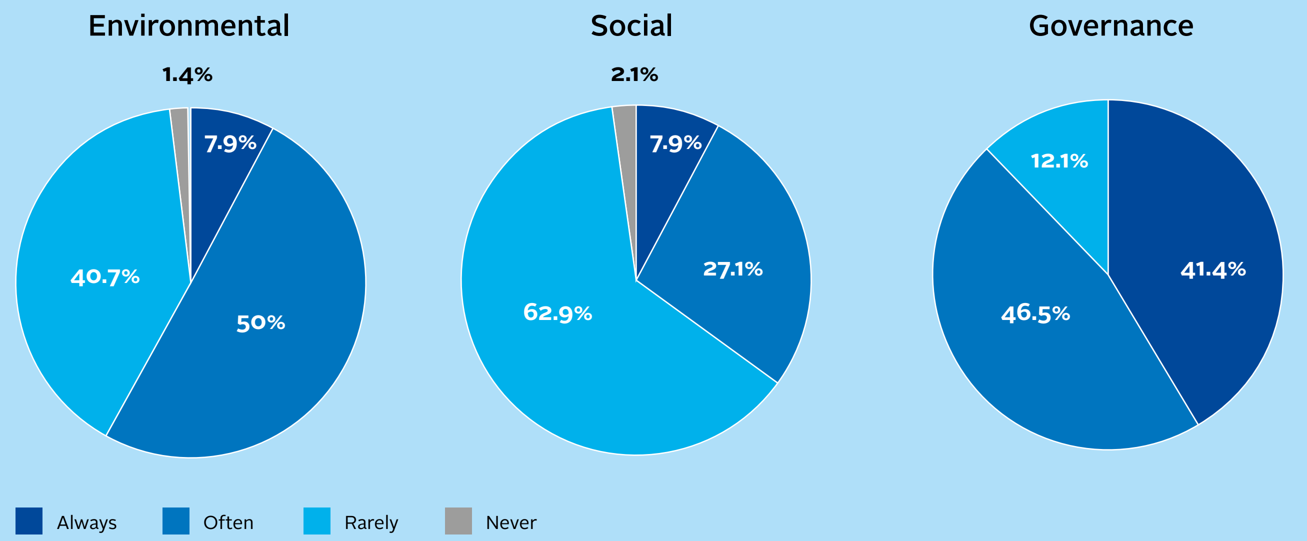
Figure 7: Even within the same industry, carbon exposure risks can vary by company. Source: 'Pricing power, route mix to determine credit implications of carbon transition', 18 April 2018, Moody's Investors Service



* NDC: Nationally Determined Contribution
** CORSIA: Carbon Offsetting and Reduction Scheme for International Aviation

INSIGHTS FROM THE INVESTOR SURVEY RESULTS

Figure 8: How frequently investors see ESG factors as impacting credit risk



> Governance can be black and white from a credit perspective; environmental and social factors are not so clear
>
> Canadian AM

DISCONNECT 2:
RELEVANT TIME HORIZONS TO CONSIDER

KEY MESSAGES:

- Time horizon considerations vary depending on investment objectives and whether the credit risk of a bond issuer or a single issue is assessed.
- They also depend on the visibility of future risks, the probability that they will materialise and whether they impact a bond issuer's cash flow and balance sheet, as well as its ability to adjust business models in line with changing ESG risks.
- The biggest challenge credit practitioners face is modelling non-financial ESG risks and capturing data interdependency.

WHAT WE OBSERVED:

Relevant time horizons differ. Different investors have different objectives, with AOs more sensitive to long-term risks, as they tend to buy and hold long-dated bonds for asset-liability management. Similarly, investors in private debt instruments are relatively more concerned about long-term risks as they finance long-dated projects. Time horizons also depend on the maturity of a bond and on whether a company generates enough cash flow to meet the debt repayment.

Timing of ESG factors' impact on credit risk. Participants considered that some ESG factors emerge gradually (for example, as a result of poor strategy choices or business planning). Meanwhile, others unexpectedly become evident at a specific time, with potentially significant market repercussions. Some may never manifest, if, through engagement, bond investors point out shortfalls and influence an issuer's future course of action.

Push for more forward-looking analysis. Some investors commented that CRAs are too reactive (a point challenged by the CRAs) and that providers of sustainability scores often rely on stale information. With this in mind, attendees discussed how scrutinising ESG factors can promote a more forward-looking approach to credit risk analysis. They considered the benefits of gathering more insight about future environmental and social policies to better leverage information and evaluate the quality of an issuer's approach to governance.

> More than on short-term versus long-term risks, the analysis needs to focus on the business model
>
> Swedish AM

Risks historically perceived as long term are surfacing. There was also recognition that risks once regarded as too far off to materially impact an issuer's cash flow and funding ability are now more visible. For example, the frequency and magnitude of climate change-related incidents is increasing. Meanwhile, growing calls for corporate governance to align approaches with long-term value creation is bolstering investor and regulatory scrutiny, and, with that, the risk of reputational consequences or inadequate preparation for policy changes.

> Materiality considerations in fixed income are more multi-dimensional than for equities. We have different instruments with different maturities, which may make an ESG issue more or less relevant depending on the time frame it is likely to play out
>
> UK AM

The importance of monitoring. Participants also discussed whether the frequency that investments are reviewed, once material threats are identified, is more significant than overall time horizon. This approach is already embraced by CRAs that review all issuers at least once a year, but may monitor more frequently those rated speculative grade, given their higher risk. Markets have the advantage of being able to react more quickly to unexpected events, but CRAs are relatively better positioned to anticipate certain surprises because they meet issuers' management more frequently.

CHALLENGES

Capturing interdependency of data/event/time horizon. Conversations revealed widespread difficulties among participants in understanding how to best consider the interplay between (see Figure 9):

1) the forces that drive ESG risks (structural trends that are typically long term in nature);
2) the probability that ESG incidents materialise as shocks (which typically occur at a specific time);
3) the risk of ESG hazards reoccurring; and
4) their impact on the issuer's creditworthiness.

Modelling ESG risks. This is not easy for a FI community that typically relies on back-testing. Past ESG data may not exist, or may not have been provided or disclosed regularly or on a comparative basis – and, even if it does exist, it may not have previously been "priced in". Modelling the non-linearity of ESG risks and capturing data interdependency is also a challenge.

Ramping up strategy and scenario analysis. Building on the TCFD recommendations, participants discussed the benefits of scenario analysis (for strategic planning and risk management purposes) (see Figures 10-11). However, issues of concern around scenario analysis include ascertaining plausibility and how many scenarios to consider. As investors, CRAs and bond issuers have come to expect scenario analysis, another aspect to consider is how to ensure consistency for peer comparability.

Assessing refinancing risks. For long-term FI investors, this is critical as the funding ability of an issuer may be affected by market, regulatory or policy changes. Participants considered that a higher cost of capital may negatively impact an issuer's credit profile. Therefore, the longer the maturity of a bond, the more important it is that practitioners take a holistic approach to risk assessment and focus on the sustainability of an issuer's business model.

Figure 9: Assessing ESG risks and credit-relevant time horizons. Source: PRI roundtable discussions

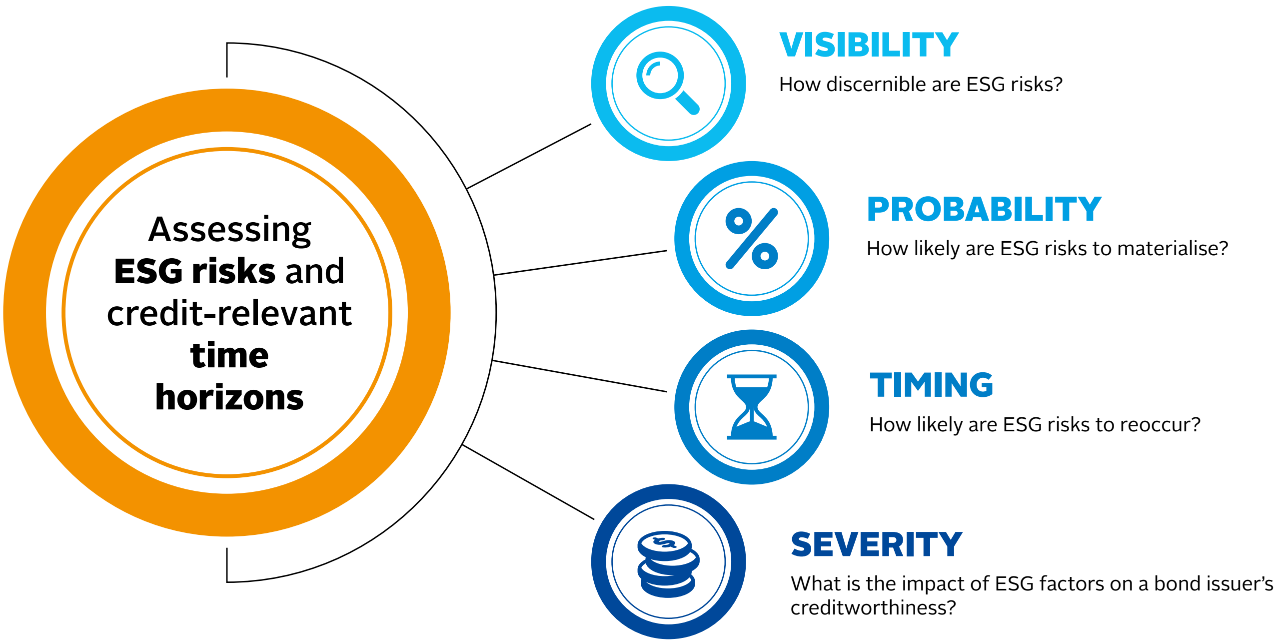
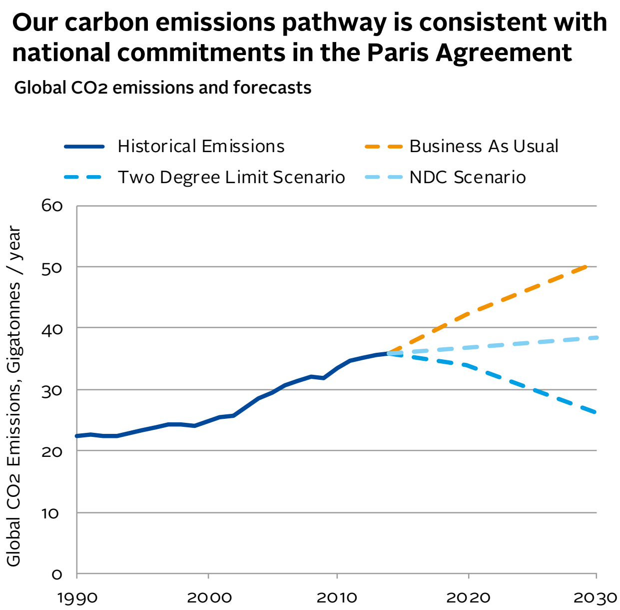
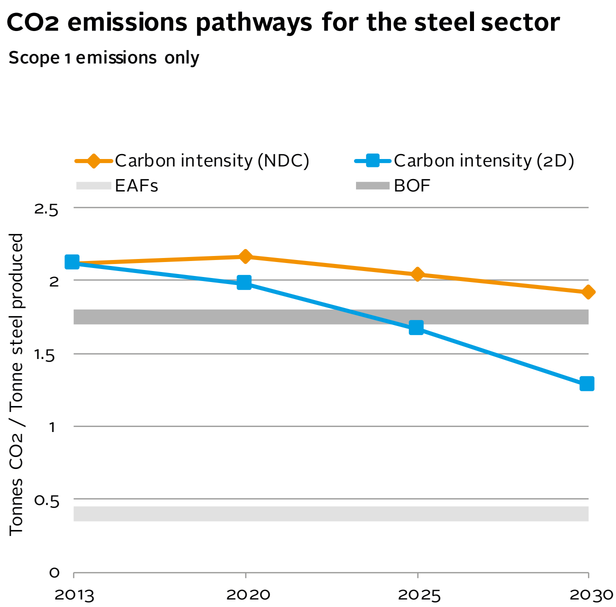


Figure 10: CRA base case assumptions underlying their analysis are becoming clearer. Source: 'Carbon transition raises risks for steelmakers but effects will vary widely', 20 March 2018, Moody's Investors Service



NDC, or Nationally Determined Contribution, agreed to under the Paris Accord. Sources: Moody's Investors Service, Carbon Dioxide Information Analysis Centre, IEA



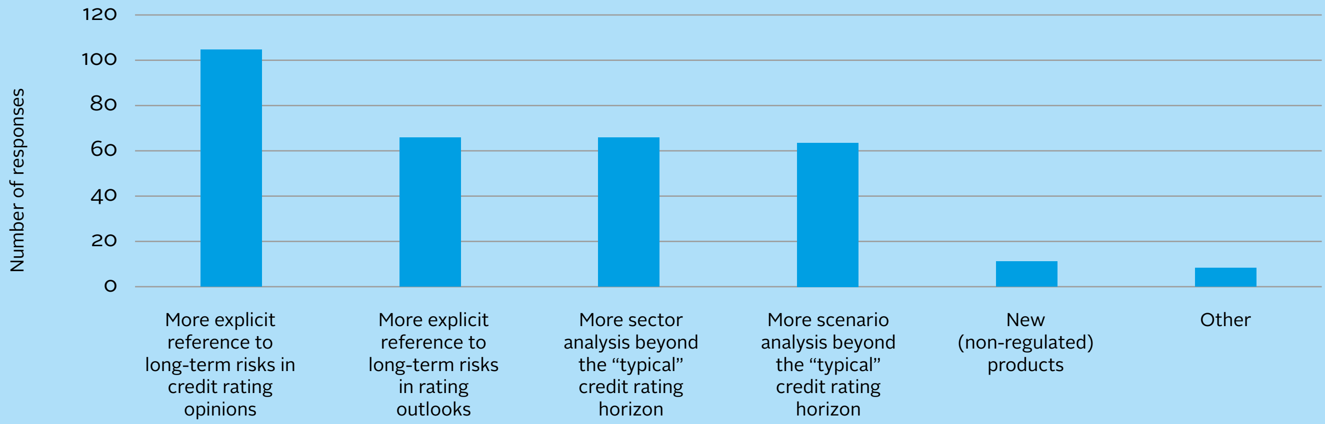
BOF-basic oxygen furnace/EAF-electric arc furnace, Scope 1 emissions are direct emissions from sources that are owned or controlled by a company. Sources: Transition Pathways Initiatives, IEA Clean Coal Centre, IEA, Moody's Investors Service

Figure 11: Sensitivity and scenario results provide insight on future credit quality. Source: 'Credit FAQ - how the recommendations of the TCFD may figure into our ratings', 16 August 2017, S&P Global Ratings

> Scenario analysis is a tool for companies to consider in a structured way potential eventualities that are different from business-as-usual and to evaluate how their strategies might perform under the circumstances proposed by the scenario. Recommended disclosure (c) under the TCFD Strategy and the related guidance asks organizations to describe the resilience of their strategies, considering different climate-related scenarios, including a two degrees celsius or lower scenario. This is the recommendation that has received the most attention to date as it is a forward-looking disclosure that moves away from the conventional historical disclosures by entities of previous years' greenhouse gas emissions.

INSIGHTS FROM THE INVESTOR SURVEY RESULTS

Figure 12: To address the inherent challenge arising from the long-term nature of some ESG risks and the time horizon of a "typical" credit rating, do you think CRAs should express their views via...



> CRAs should better signpost long-term ESG risks in credit ratings opinions
>
> Swedish AM

DISCONNECT 3:
ORGANISATIONAL APPROACHES TO ESG CONSIDERATION

KEY MESSAGES:

- Investors and CRAs acknowledge that they are in the early phase of formalising a systematic approach to ESG consideration.
- Senior management buy-in is key.
- Improving knowledge and expertise, as well as overcoming internal inertia, are big challenges.

WHAT WE OBSERVED:

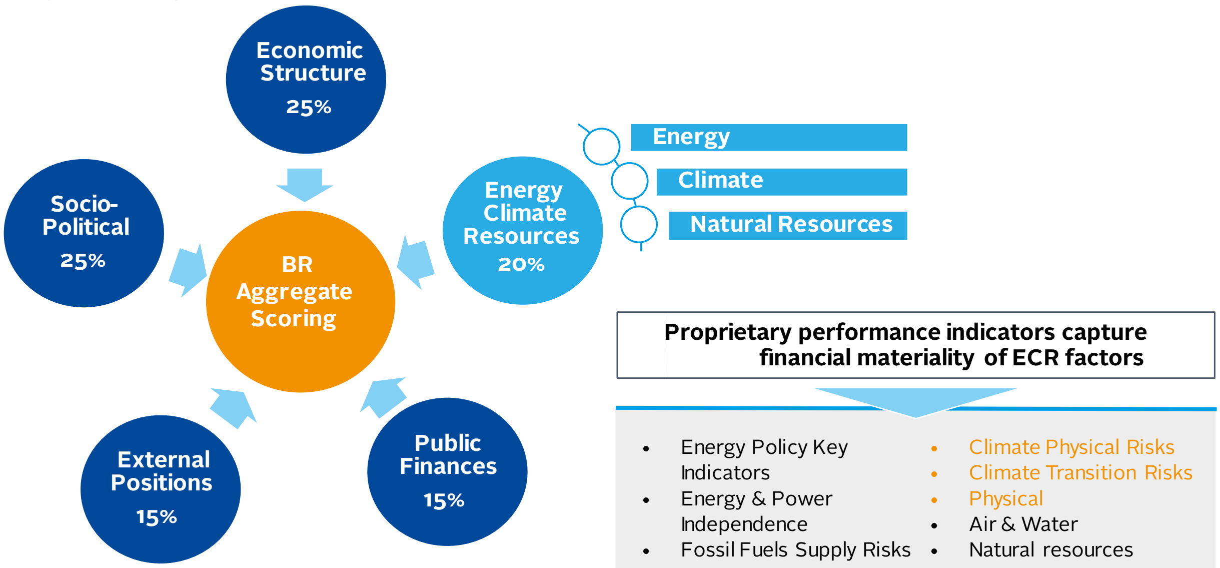
Traditional CRAs are undergoing significant organisational changes. The responsibility and coordination of efforts to disclose and better reflect ESG consideration in research, ratings and analysis no longer rests with just one or a few people globally. Rather, it is firmly on the agenda of steering committees, working groups and dedicated analyst teams or departments. This development is not confined to the largest CRAs, which are moving fast, but is also being seen among some smaller players (see Figures 14-16).

CRAs are boosting expertise on ESG. This includes training analysts on relevant ESG factors, which CRAs such as Japan Credit Rating Agency, Moody's Investors Service and S&P Global Ratings have already started doing, hiring environmental, social or governance experts[8], and acquiring specialist service providers[9].

The CRA landscape is evolving. New actors are beginning to provide dedicated ESG risk assessments or enhanced analysis of creditworthiness. For example, Beyond Ratings, which focuses on sovereign credit risk, provides in-depth natural capital investigation (see Figure 13)[10]. Spread Ratings specialises in medium-sized European corporate debt issuers and recently merged with EthiFinance to provide credit ratings based on financial as well as non-financial information[11].

> ESG consideration started with negative screening and now is embedded in all our investments
>
> French AM

Figure 13: Five analytical pillars to assess sovereign credit risk assessment including natural capital issues. Source: Beyond Ratings



8 See, for example, 'Moody's hires carbon and corporate governance experts to join its ESG team', press release 28 February 2018.

9 For example, the acquisition of Trucost by S&P Global Dow Jones Indices, a division of S&P Global, press release 3 October 2016.

10 Note: Beyond Ratings is not a registered CRA yet, but has applied to ESMA. Because of its focus on sovereign credit risk, insight gained from Beyond Ratings' methodology and credit rating examples will be covered in part three of the series.

11 Spread Ratings is the brand name under which Spread Research - a legal entity registered with ESMA since 2013 - operates its rating activity. Both Beyond Ratings and Spread Ratings are signatories of the PRI ESG in Credit Ratings Statement.

> There is heightened awareness of ESG as well as heightened sensitivity, because client demand is increasing
>
> Canadian AM

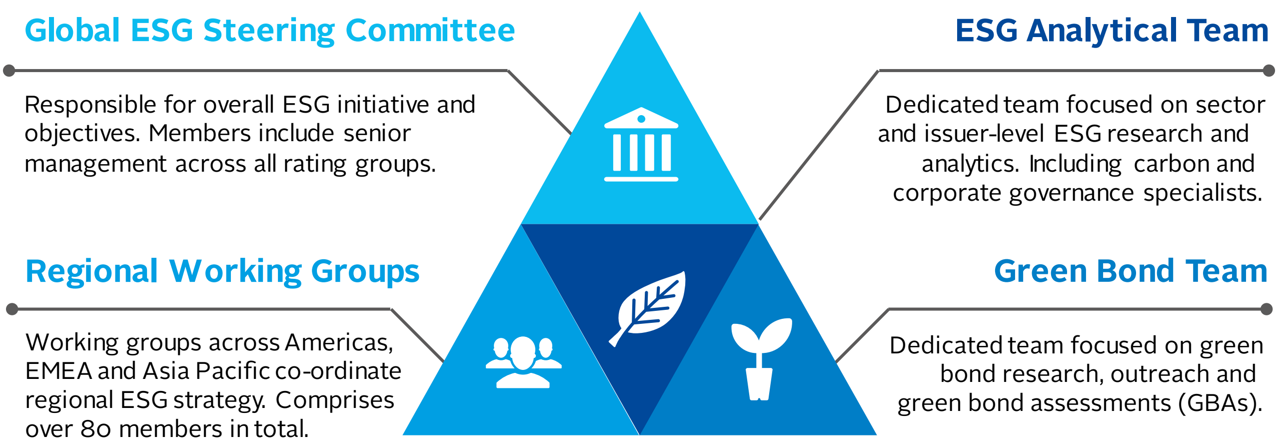
FI investors are channelling more resources to ESG consideration. The roundtables confirmed part one's finding that resources are expanding, including on human capital. The level of interest that the roundtables generated showed that investors are keen to learn.

Mixed asset allocation appears to be an advantage. Investors with assets allocated to both equity and FI have made more progress. This is because 1) there are synergies; engagement with issuers may be easier and facilitated by the equity team, and 2) credit risk is considered as a counterparty risk.

Senior management buy-in is crucial. The level of CRA participation and backing of the roundtable events reinforce changes in this respect. At the investor level, it was noted that while individual credit analysts and FI portfolio managers may have different attitudes or sensitivities towards ESG topics, if changes are mandated from the top, the integration process is faster and more systematic.

Evolutionary process. Building capacity and establishing new policies can take a long time and be rolled out in stages. Some of the more advanced investors shared their experiences, which often started with rules-based investing or dictated by ethical values, but is now becoming holistic and integrated in mainstream investing.

Figure 14: Moody's global ESG organisational structure. Source: Moody's Investors Service



> There is no single best model or approach to ESG. It's important to take account of cultural and organisational factors: it is likely that a mix of top-down and bottom-up approaches is needed
>
> UK AM

Figure 15: S&P Global Ratings' sustainable finance team embedded into the company's organisational structure. Source: S&P Global Ratings

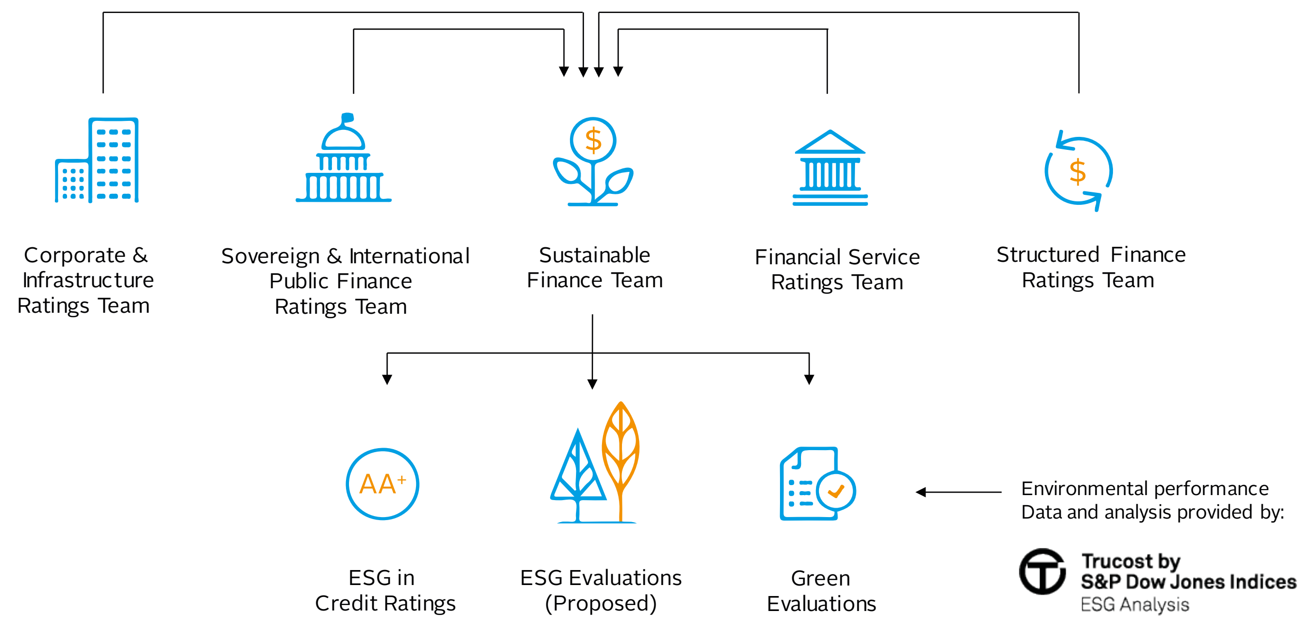


Figure 16: Interdisciplinary collaboration with relevance to all operating companies in Scope Group. Source: Scope Ratings AG

ESG

SCOPE RATINGS

PUBLIC CREDIT RATINGS
- Corporates
- Financial Institutions
- Project Finance
- Public Finance
- Structured Finance

SUBSCRIPTION RATINGS
- Non-public credit ratings
- Credit estimates
- Rating assessment services

ESG

SCOPE RISK SOLUTIONS

CREDIT MODELS & CREDIT ASSESSMENTS
- Adj. Financials & Ratios
- Credit Models
- Credit Assessment Workflow Platform
- Model Development & Validation
- Mandated Credit Research
- Credit Training & Bespoke Solutions

ESG

SCOPE ANALYSIS

MUTUAL FUND ANALYSIS
- Investment Fund Ratings
- Certificate Issuer Assessments
- Asset Manager Ratings
- Asset Allocation Studies

AIF ANALYSIS
- Real Estate Funds
- Aviation & Shipping Funds
- Infrastructure & Energy Funds
- Asset Manager Ratings

MARKET DATA ANALYSIS

MARKET & SECTOR STUDIES

ESG

SCOPE INVESTOR SERVICES

PORTFOLIO STRATEGY SERVICES
- Investment Strategies
- Investment Monitoring

SELECTION SERVICES
- Manager Selection
- Funds Selection

MARKET RESEARCH
- Market Data
- Assessments

CHALLENGES

Equipping analysts with relevant skills. While expertise and resources are improving on the investor and CRA side, building competence to ensure that credit analysts systematically take into account ESG factors is still a work in progress. Different approaches were considered including developing expertise in-house, bringing in external expertise or outsourcing on an ad hoc basis.

Overcoming inertia. Institutional investors that are relatively young (in terms of maturity and level of experience) may already come to the market with an ESG mandate, mission or product offering. For them, it may be easier to build pricing models afresh rather than modify existing, conventional methodologies. More mature organisations can rely on larger resources but, in the absence of senior management buy-in, may find it harder to break down barriers and overcome siloed work practices.

Incentivising and rewarding analysts that are best at unlocking ESG value. It was observed that credit analysts are rewarded for ideas while portfolio managers are rewarded for performance. Both roles face challenges when it comes to ESG consideration because it can take decades for corporate strategies to produce tangible results (both positive and negative) or for blow-up events to materialise. In addition, good forward-looking practitioners are not always recognised immediately.

Responding to burgeoning client demand: Another big challenge is how to respond to rapidly increasing client demand for ESG investment compliance. The task practitioners are facing is to meet this ask not only with broader product offerings but while demonstrating ESG integration in mainstream investment decisions. AMs must also present a framework that can serve as a differentiator and provide a competitive edge.

INSIGHTS FROM THE INVESTOR SURVEY RESULTS

Figure 17: Which are the three most important drivers to incorporate ESG issues in credit risk analysis?

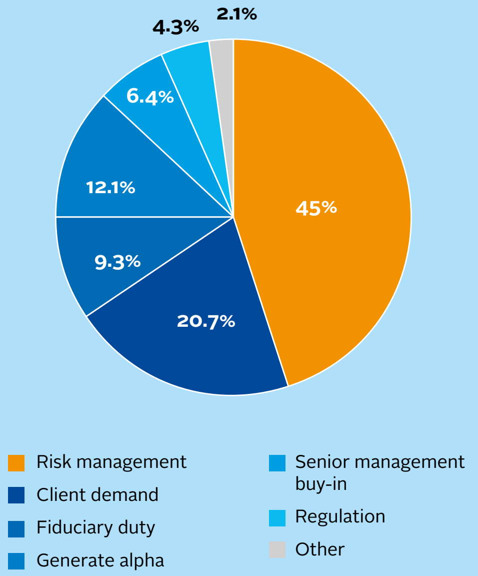
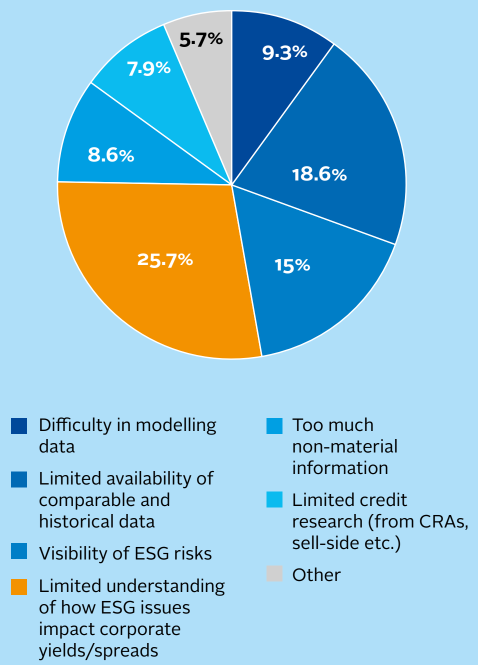


Figure 18: Which are the three main barriers to integrating ESG issues in credit risk analysis?



DISCONNECT 4:
COMMUNICATION AND TRANSPARENCY

KEY MESSAGES:

- Although transparency efforts are increasing, investors and CRAs acknowledge that there is still room for improvement on the communication front.
- Outreach and engagement are becoming more common practice, but only recently, as most FI investors have just started to formally embrace ESG consideration.
- A built-in approach when considering ESG factors in credit risk analysis is more aligned with integration but appears more challenging to demonstrate than an add-on approach.

WHAT WE OBSERVED:

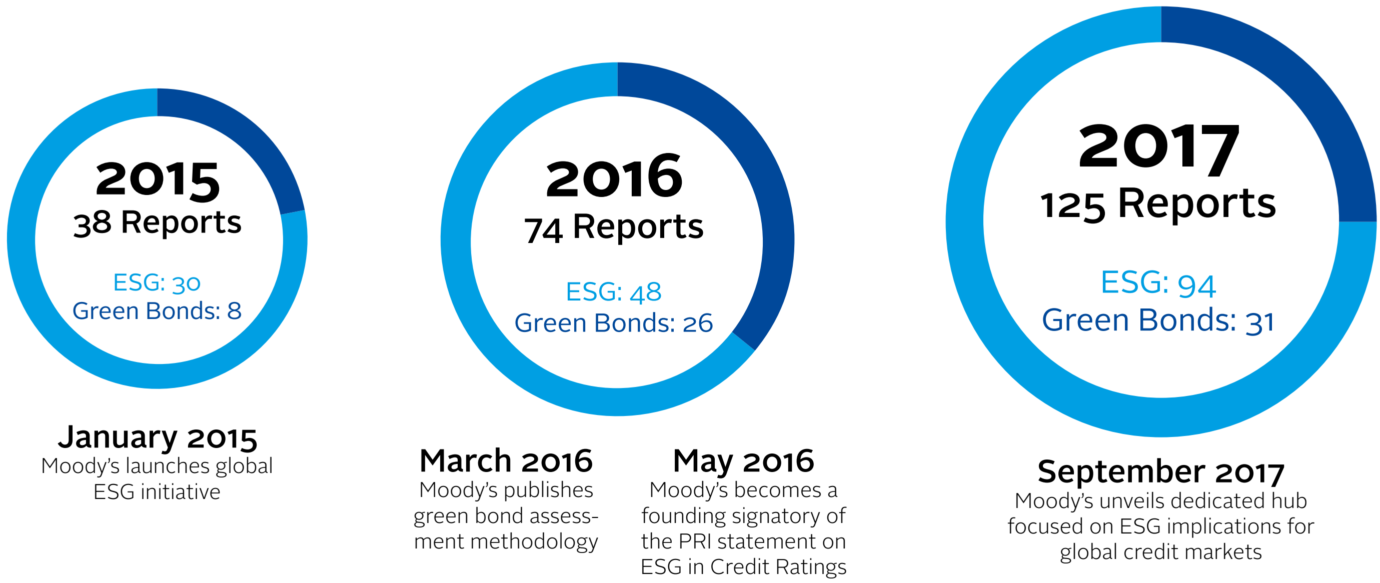
Most investors were unaware of the efforts that CRAs have made in recent years to improve transparency. They have produced:

- **Publications:** CRAs have been publishing research papers related to ESG and notes to show how ESG factors feature in their methodology – particularly since 2015, a key turning point in investor and CRA sensitivity to ESG consideration (likely heightened by the signing of the COP21 Paris Agreement). This push has intensified since the signing of the PRI ESG in Credit Ratings Statement (see Figures 19-20)[12].
- **Dedicated webpages:** These are facilitating the dissemination of ESG-related research and methodologies, and showcase the enhanced competencies that CRAs are acquiring in this area[13].

Few investors had engaged with CRAs specifically on ESG issues prior to the PRI events. This likely reflects the fact that this topic has historically ranked relatively low in credit risk analysis. As a result, CRA outreach to investors has hitherto been limited. Discussions also revealed that investor engagement on ESG topics with bond issuers has generally been poor.

More discussion is needed. Articulating how ESG factors impact credit risk through the roundtables is helping to advance thinking among credit practitioners. For some investors, sharing practices and challenges is helping to structure in-house debates as well as become more inquisitive on ESG topics.

Figure 19: Moody's ESG-related publications since 2015. Source: Moody's Investors Service



12 Note: The number of reports in the exhibits by Moody's Investors Service and S&P Global Ratings are not strictly comparable because the two CRAs may have different criteria to categorise ESG or sustainability-related publications.

13 See, for example, Moody's Investors Service, Rating Agentur Expert Europe and S&P Global Ratings. The latter has also launched a dedicated page explaining S&P Global Ratings' approach to assessing ESG in ratings. It is notable that Fitch Ratings, which has not signed the PRI statement, has also set up a dedicated web page.

CHALLENGES

Language barriers. ESG has become a convenient, succinct acronym to describe non-traditional financial risks, but encompasses a variety of factors that are often not labelled as such or are difficult to categorise. ESG factors may also have different meanings depending on the regions where they are analysed. Participants acknowledged that agreeing on terminology might take time and that more discussion is needed.

Add-on versus built-in approaches. The merits and limitations of these approaches were discussed at length (see Figure 21). An add-on approach is more visible but carries the risk of "double counting" or evolving into an ESG assessment already provided by other third parties. A built-in approach is more challenging to demonstrate, but more aligned with ESG integration.

Dedicated section in rating opinions. This point was discussed extensively and demanded by several investors to avoid double counting issues in their own analysis. CRAs have not dismissed this idea. However, they pointed out that ESG consideration filters in at various stages and through different pillars of their credit framework. Moreover, issues vary across regions and sectors. Finally, if they are not material to the rating, explaining why ESG factors have not been considered risks lengthening the rating opinion unnecessarily.

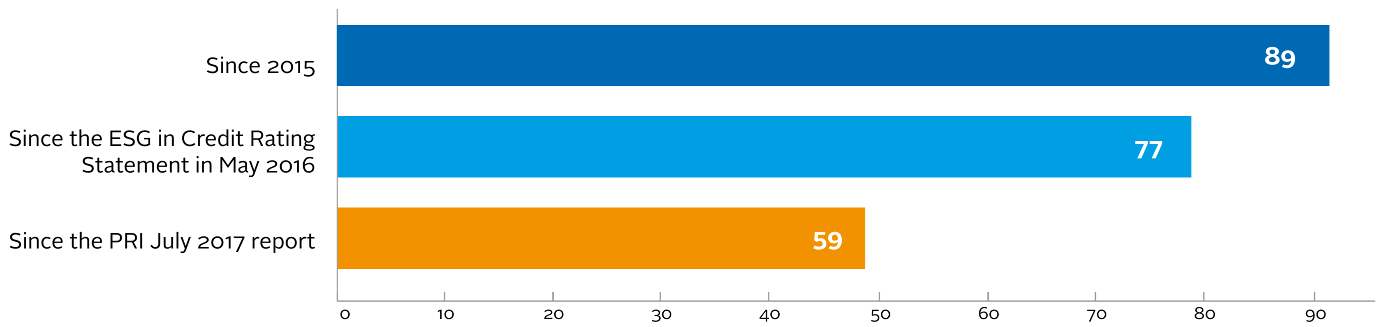
Scenario analysis and stress testing. These were also discussed as tools to enhance transparency and clarify the rationale behind rating opinions, responding to increasing investor demand to understand what influence ESG consideration played (or did not play) in their formulation. However, as already highlighted in the previous section on time horizons, these solutions are helpful as risk guidance but have shortfalls in consistency and comparability.

Risk that ESG consideration becomes a tick-box exercise. Some participants were concerned that spending time considering ESG factors when they are not relevant would add a burdensome administrative layer, rather than facilitate investment decision-making.

Reaching out to non-PRI signatories. PRI signatories are relatively more sensitive to ESG issues but there are still many FI investors that are sceptical and do not see any benefit in ESG analysis. Some investors raised the question of how to boost awareness and advocated for more academic and market research to demonstrate their relevance[14].

> We do not want a separate ESG rating – we want ESG factors to be an integral part of the credit rating, and transparency about whether or not ESG factors are material to the rating
>
> UK AM

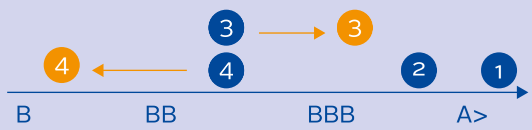
Figure 20: S&P Global Ratings' number of articles published on sustainability-related topics since 2015. Source: S&P Global Ratings



14 In Shifting perceptions: ESG, credit risk and ratings – part 1: the state of play, we extrapolated key points from available publications but also highlighted that academic and market research on ESG factors and creditworthiness is limited and lagging that which explores links between ESG factors and equities.

Figure 21: Considering an add-on versus a built-in ESG integration approach in credit ratings. Source: Scope Ratings AG

INTEGRATED RATING APPROACH

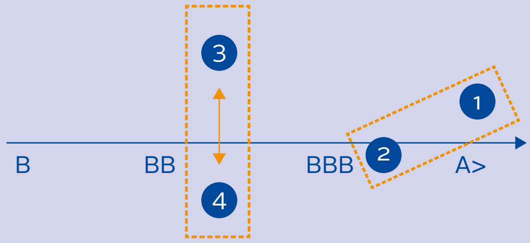


AREAS OF CONCERN

- Verification of data
- Materiality of ESG factors into credit quality
- Automatic penalisation of some industries

VS.

ADD-ON ESG ASSESSMENT APPROACH



ADVANTAGE OF ADD-ON REPORTING

- **Flexibility:** pursue tailored strategy while reporting ESG strategy
- **Activism:** enter into negotiations with “weak” ESG corporates to increase their efforts
- **Comparability:** greater flexibility of Scope Ratings to adapt on a case-by-case basis (reporting differences between corporates)

> We need both qualitative and quantitative approaches: at the end of the day, analysts have the final say on forward-looking risk assessment
>
> French AM

> CRAs should have a separate ESG section within rating opinions
>
> Dutch AM

INSIGHTS FROM THE INVESTOR SURVEY RESULTS

Figure 22: Are you aware of the research that CRAs have published on ESG?

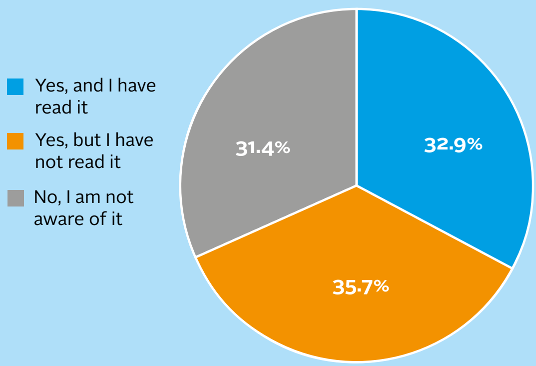


Figure 23: If you are aware but have not read it, is it because...

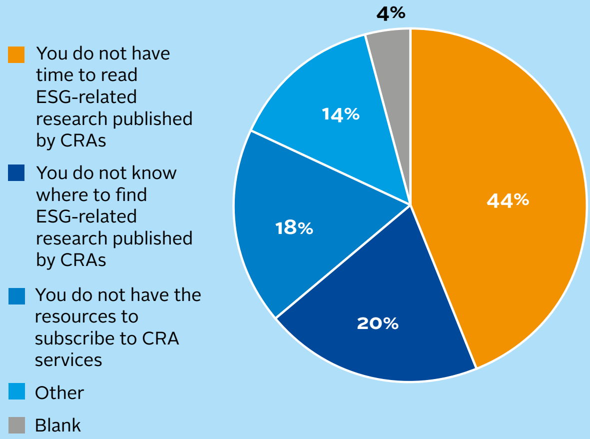


Figure 24: Are you aware of how CRAs incorporate ESG factors in their rating methodologies?

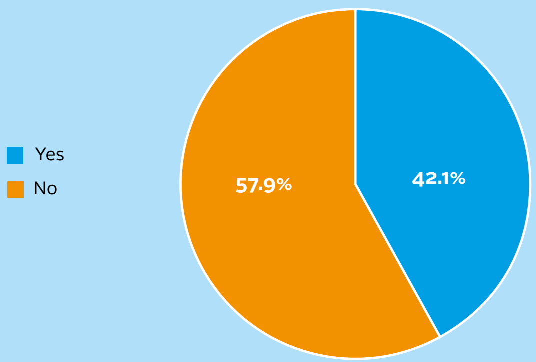
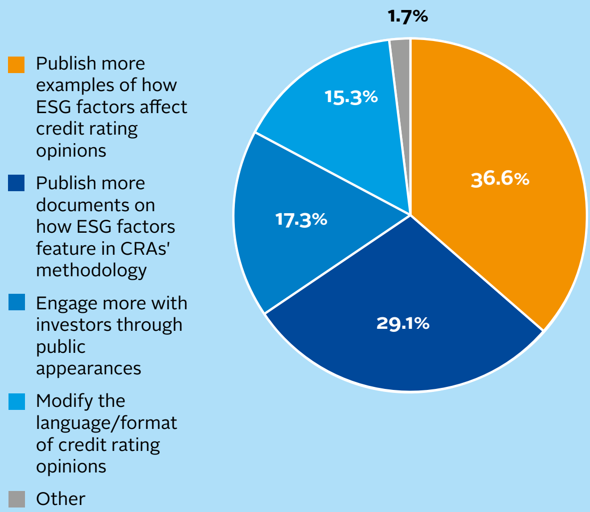


Figure 25: To increase transparency and communication related to ESG factors in credit risk analysis, do you think that CRAs should...



> We want to see more examples of rating changes
>
> Swedish AM

LOOKING AHEAD

While it is still too early to identify solutions to the problems frequently encountered by investors and CRAs when incorporating ESG factors in credit risk analysis, there are ripe opportunities for further work.

The roundtables have thus far only scratched the surface of an area deserving of much deeper investigation. Participants called for more focused sessions – by issuer type (e.g. sovereigns and corporates), sub-asset class (e.g. investment-grade, high yield and emerging markets) and by sector – as well as with a broader range of stakeholders, including bond issuers and ESG service providers.

> We are doing the surgery without the patient i.e. the issuer
>
> US AM

The forums also revealed that there is still considerable confusion among market participants about the purpose of ESG analysis in credit risk and about basic but important concepts such as the differences between ESG consideration in credit ratings and the ESG assessment made by ESG score providers[15]. Indeed, the two tools can be complementary for investors but are distinct:

- Credit ratings are opinions about the relative creditworthiness of a bond issue or its issuer, based on the likelihood of default and the financial loss suffered in the event of a default. They are formed based on quantitative and qualitative analyses and analytical judgement. They are provided by CRAs (typically paid for by a bond issuer when solicited) and are regulated products.
- ESG scores evaluate a security issuer (either of bonds or equities) according to their exposure and performance relative to ESG factors and compared to their peers. They are quantitative indicators; they are usually compiled by third-party service providers (typically paid for by investors) and are unregulated products[16]. They provide useful material for investors to make informed decisions. However, unlike credit ratings, they do not capture the impact of ESG factors on the overall creditworthiness of an issuer and the issuer's balance sheet and cash flow.

This distinction is important to clarify what CRAs should focus on. Investors seem to expect judgment on the quality of ESG information provided by a company, which is beyond the CRA institutional remit. However, it is important to stress that the purpose of CRAs is not to provide an ESG certification, nor to offer investment advice. Rather, the focus of credit ratings is on relative creditworthiness through assessing a bond issuer's fundraising ability, its cash flow generation, and whether this is sufficient to honour debt commitment including at redemption – in full and on time. With that said, CRAs should continue to work on making ESG factors more explicit in credit rating opinions and on broadening their analysis to encompass new risks – to the extent that ESG issues are or become material to creditworthiness.

> Non-financial data are not audited... more regulation is needed
>
> German AM

15 ESG scores are also commonly referred to in the market as ESG or sustainability ratings.

16 However, CRAs have also started to offer sustainability scores - which are different from traditional credit ratings - and these may be regulated.

NUANCED QUESTIONS

Participants appreciated the difference between credit ratings and ESG scores more during the roundtable discussions when thinking of the questions that credit practitioners need to ask when considering ESG factors in risk assessments. When assessing an issuer's ESG performance, certain questions may also be pertinent to credit risk analysis assessment, but some are only relevant to the latter. For example:

ESG FACTOR	OVERALL ESG PERFORMANCE ASSESSMENT	ESG ASSESSMENT IN CREDIT RISK ANALYSIS
Environment	▪ Does an issuer manage carbon emissions and, if so, how well? ▪ How energy efficient is an issuer? ▪ Is an issuer contributing positively/ negatively to the environment relative to its peers?	▪ What is the impact on earnings and cash flow of managing carbon emissions? ▪ Are there regulatory or policy changes looming that may affect revenues, costs, profits and capital expenditures? ▪ Is the business model sustainable in view of these changes?
Social	▪ How diverse is the workforce? ▪ Is there a gender balance? ▪ What about employment safety? ▪ How is the issuer managing transition labour skills in the face of increased automation?	▪ Do labour disputes or high-frequency litigation affect revenues? ▪ Does high employee turnover affect productivity? ▪ Does a lack of employment safety guarantees expose the issuer to regulatory fines that would affect cash flow and the balance sheet? ▪ What is the impact of managing transition labour skills in the face of increased automation on earnings and cash flow?
Governance	▪ What is the board structure and composition? ▪ How transparent are management practices? ▪ How accountable is management? ▪ Is there a robust procedure in place to check supply chains?	▪ How does ownership structure affect corporate decision making? ▪ How is corporate governance associated with levels of future operating performance? ▪ How good and reliable is data disclosure to ensure reliable auditing?

To bring clarity to the market, we plan to discuss how FI investors can use both tools, their weaknesses and what can be improved during a panel session at PRI in Person in San Francisco on 13 September 2018[17]. The panel will feature representatives from investors, CRAs and ESG service providers.

Later in the year, the third report of the series will present the insight gained on the differences between ESG in corporate and sovereign credit risk that some of the roundtables focused on. It will also explore the solutions that started emerging during the discussions.

17 The session will be audio recorded and available on the PRI website.

LESSONS FROM THE AUTOMOTIVE SECTOR

The Frankfurt roundtable focused on the automotive sector for three main reasons:

- Following the diesel scandal, and in light of structural changes that the sector is undergoing to boost penetration rates of low-emission vehicles, this industry lends itself as a good practical example of the interplay of ESG factors on corporate credit risk.
- All representatives of the five CRAs that participated in the forum were experts in this area; a representative of one of Germany's largest car manufacturers also joined.

Car lifecycle assessment (i.e. the procedure that measures the impact of a vehicle on the environment from production to use, disposal and eventual recycling) is now a standard practice among major car manufacturers, most of which have adopted the International Organization of Standards (ISO) Life Cycle Assessment guidelines. Combined with lifecycle costing, this means that many car manufacturers are familiar with using a sustainability management tool that allows the comparison of a product against itself (at different points in its life) and against its competitors. This practice alone already facilitates credit risk analysis when it comes to ESG consideration.

Furthermore, the automotive sector is relatively more exposed than others to disruptive forces and changes in business models linked to the introduction of advanced vehicles, autonomous and shared driving as well as regulatory changes (see Figure 26). This implies that credit analysts have important ESG questions to assess when considering management policies and measuring balance sheet strength in the face of new opportunities, costs, competitive challenges and risks that car manufacturers need to address.

Figure 26: Disruptive trends in the global auto industry. Source: S&P Global Ratings

ESG	EMERGING RISKS	INDUSTRY/RATINGS
E-environment	Transition to electric mobility	Next Decade's Leading Change
S-social	Digitalization & Connectivity	Change of consumers' preferences, from car ownership to consumption of mobility services
S-social	Autonomous Driving	
G-governance	Litigation Risk	Issuer-specific impact

The big unknowns are not only related to future product offerings and their quality but to changes in client preferences, increased digitalisation and connectivity, as well as uncertainties related to the regulatory environment.

A side effect of these changes is the varying mix of labour input in car production versus that of fixed capital, with ramifications on jobs, changing skillset requirements and costs related to workforce restructuring.

During the roundtable, we heard how ESG factors feature in the credit risk analysis of car manufacturers. Broadly speaking and bearing in mind that methodologies differ, when formulating a credit opinion, a credit rating agency assesses the business risk profile of car manufacturer and its financial profile:

- **The business risk profile** encompasses the operational environment and many factors that can be interpreted as strengths or weaknesses. This includes categories such as country risk (primarily geographical location and political, institutional and policy stance); industry risk, including those related to technology; risks related to product breadth and strength as well as development strategy, size and diversification (and a company's ability to fund the investment required to make the changes needed to adapt to disruptive trends); risks related to the competitive position of the car producer; and regulatory and legal risks.
- **The financial profile** is the second key dimension from a credit perspective. It assesses the capacity of an issuer to repay a bond from the cash flow of the business. Once a company makes a strategic decision towards adopting a new technology, for example, it needs to be confident from a financial perspective that there is going to be demand for its products and in the right geographical areas. It also needs to ensure that during the transition its balance sheet remains strong and it continues to sell products in a competitive environment where margins are tight. The challenge with the transition towards low-carbon vehicles is that automakers may embrace it because they fear the threat of regulatory changes, not because they see demand for it.

The figure below illustrates how ESG factors are not isolated risks and feature in different components of business risk – and often repeatedly as they can be assessed under all ESG categories (see Figure 27). Governance is listed first as it was cited by all credit practitioners as the most decisive factor in triggering rating or outlook changes.

Figure 27: How ESG factors feature in the auto sector business risk and financial profile. Source: PRI roundtable discussions

BUSINESS RISK PROFILE

COUNTRY RISK | INDUSTRY RISK | DEVELOPMENT STRATEGY | COMPETITIVE POSITION | REGULATORY/ LEGAL FRAMEWORK

FINANCIAL PROFILE

Capital structure (equity/debt), profitability and cash flow, liquidity, operational risk, R&D expenditures, pension liabilities, litigation costs, past track record, adherence to commitments, refinancing costs

ENVIRONMENT

- Country risk
- Regulatory/legal framework
- Cost of emission-reducing technologies
- Cost of alternative fuel vehicles
- Product breadth and strength
- R&D outlays for new materials/ technologies

SOCIAL

- Country risk
- Operational costs to prevent or to deal with health and safety accidents
- Changing consumer preference (digitalisation/share mobility/ autonomous driving)
- Cost of retraining workforce
- Cost of labour disputes

GOVERNANCE

- Country risk
- Regulatory/legal framework
- Development strategy/ business model
- Size and diversification
- Awareness of new/ emerging risks: e.g. changing consumer preference
- Litigation risks
- Product recall risk
- Cyber risk

S&P Global Ratings' rating assigned to Volkswagen (VW) came under pressure in the aftermath of the diesel emission manipulation in the US. A violation of environmental laws eventually revealed shortfalls in governance. S&P Global Ratings announced a CreditWatch with negative implications on VW's "A" rating in September 2015 following the recall of 11 million vehicles worldwide[18]. After admitting involvement in the manipulation of diesel engine exhaust emissions, the rating was downgraded twice by two notches (in October and December 2015 respectively) while the assessment of governance was revised downwards to reflect inadequate risk management frameworks of environmental and social risks[19]. Equally important is the recent revision of the outlook from negative to stable on better-than-expected operating performance and improving cash flow generation, although the rating remains well below its pre-September 2015 level due to ongoing concerns about governance[20]. It took a long time for VW stocks and bonds to return to levels close to the time prior to the diesel emission scandal (see Figures 28-29).

Figure 28: VW equity performance since 2014. Source: Bloomberg

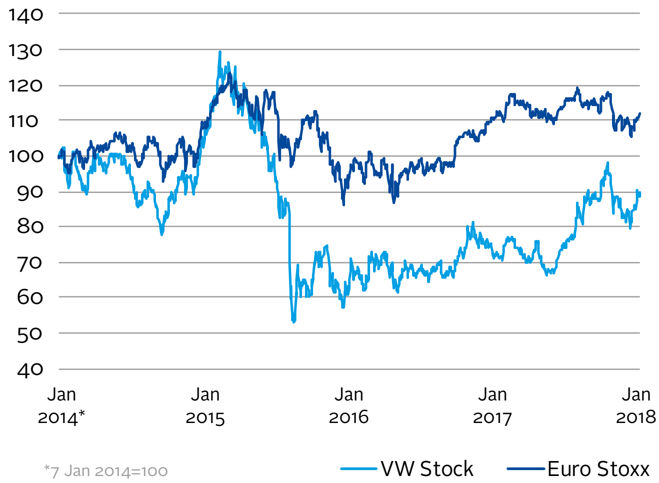


Figure 29: VW bond performance since 2014. Source: Bloomberg

We also heard about how Moody's Investors Service integrated carbon transition risks in its assessment of General Motors (GM) and how the company's rating returned to investment-grade last year (see Figure 30). This was partly because of GM's prudent investment in emerging technologies and its proactive approach to allocating managerial, financial and technical resources necessary to comply with increasingly stringent carbon emissions.

Another good example is the recent Moody's Investors Service's downgrading of Tesla[21] to B3 from B2 with a change in the outlook from stable to negative on concerns about the "significant shortfall" in the production rate of its Model 3. Even if Tesla produces environmentally-friendly vehicles (putting aside concerns about how the electricity grid is supplied and the disposal of batteries), its financial situation is tight, as the company needs to raise capital to repay maturing bonds and deliver on its target (which are important from a credit perspective).

> "General Motors is making prudent investments in emerging technologies that include electrification, ride sharing and autonomous driving... GM remains very proactive in allocating managerial, financial and technical resources necessary to comply with increasingly stringent carbon emissions regulations."
>
> Credit Opinion – General Motors Company, August 2017, Moody's Investors Service

18 See 'Germany-Based Automaker Volkswagen Placed on CreditWatch Negative On €6.5 Billion Charge For Global Recall', 24 September 2015, S&P Global Ratings Research Update.

19 See 'German Automaker Volkswagen Ratings Lowered to 'A-/A-2' On Governance; L-T Ratings Remain On Watch Neg on Ongoing Risks', 12 October 2015 and 'German Automaker Volkswagen Downgraded To 'BBB+' from 'A-' On Adverse Emissions Impacts; Outlook Negative', 1 December 2015, S&P Global Ratings Research Updates.

20 See 'German Automaker Volkswagen Outlook Revised To Stable From Negative; 'BBB+/A-2' Ratings Affirmed', 6 November 2017, S&P Global Ratings Research Update.

21 See: 'Rating Action: Moody's downgrades Tesla's corporate family rating to B3, senior notes to Caa1. Outlook is negative', 27 March 2018, Moody's Investors Service.

Figure 30: Illustrative example of how ESG considerations are reflected in Moody's methodology for automobile manufacturers. Source: Moody's Investors Service

Captured within scored factors

Example:
Business Profile:
Assessment of emissions-reducing technologies and alternative fuel vehicle (AFV) product development in terms of innovation and customer acceptance; and sufficiency to meet future regulatory standards

Explicitly scored factor

Example:
Financial Policy:
Assessment of company's desired capital structure or targeted credit profile, its history of prior actions, including its track record of risk, and its adherence to its commitments

Outside of scorecard

Example:
Environmental and Other Regulatory Considerations:
Assessment of implications of environmental standards and regulatory oversight for company's market position, product breadth or strength, and expectations of future financial metrics

Finally, there were also examples from Dagong Global Credit Ratings of how regulatory changes in China to promote the use of new energy vehicles (NEVs) – of which China is the currently the largest world producer – were negative from a credit perspective for three Chinese bus makers and how forthcoming regulations will be positive for some companies but negative for others.

To reach its target of five million NEVs on the roads by 2020 – as part of its clean energy strategy – China has offered substantial fiscal subsidies since 2009, at both the national and sub-national level. However, the terms of these subsidies have changed repeatedly over time, partly in response to concerns about subsidy fraud and inconsistent product quality (including safety features). For example, the 2016 introduction of a "30 mileage threshold" for subsidising non-family used NEVs dented the profits of selected bus makers (see Figures 31-32).

Figure 31: Recent credit-negative examples from China driven by regulations. Source: Dagong Global Credit Rating

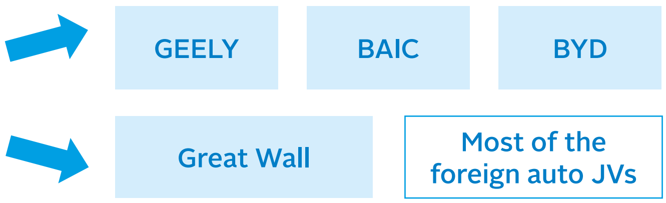
COMPANY	1H 2017	2016	2015	2014
YUTONG	-38.82	-7.28	37.02	54.58
KING LONG	-92.38	-300.24	94.41	8.34
ZHONGTONG BUS	-78.86	47.44	37.62	180.86

Introduction of «30km mileage threshold» for subsidising non-family used NEVs

The latest adjustment for the 2017-2020 period targets manufacturers rather than end-users. Among other features, it tightens vehicle qualification requirements (for example, an electric car must meet minimum energy efficiency and maximum speed requirements to qualify for the subsidy and not just maximum speed as was the case in 2016). Meanwhile, as of April 2018, automakers and importers will be evaluated against a dual scoring system which takes into account the output of NEVs and the fuel consumption of traditional cars. These changes are credit positive for those manufacturers that are quickly changing their development strategy (BYD is making progress in the building permit approval by the Qinghai provincial government for a 30,000-tonne battery-grade lithium carbonate project). Car manufacturers that are not adapting production lines quickly enough to thrive in the new regulatory environment are credit negative[22].

Figure 32: Recent examples from China: Regulatory introduction of dual-scoring system fosters potential divergence based on corporate development strategy. Source: Dagong Global Credit Rating

- From April 2018, automakers and importers will be evaluated by the regulator with a dual scoring system assessing 1) the output of NEVs, and 2) the fuel consumption of traditional cars.
- To gain a positive score for NEV output, car manufacturers must make NEVs 10% of their vehicle output by 2019, and 12% by 2020. One pure electric car designed to run 300km with a fully charged battery will be given 4.4 credits, and a plug-in hybrid will be given 2 credits. NEV scores can be traded, and automakers or importers with negative NEV scores must buy credits from peers.
- Scores for average fuel consumption of traditional models is calculated based on the number of traditional cars produced.
- Automakers and importers must compensate for low NEV scores or poor fuel consumption scores within 90 days, or face significant penalties.



"NEV leaders such as BYD, Geely and BAIC will benefit from the trading system, while major SUV producers such as Great Wall Motors and most of the foreign auto JVs will need to buy NEV credit and/or stop production of traditional cars, if their production lines are not adjusted."

Dagong

22 For more details, see China Auto Sector Credit Outlook 2H 2017 and China Auto Sector Credit Outlook 2018, Dagong Global Credit Rating.

APPENDIX 1

EVIDENCE FROM CRAS

Below are some examples that provide evidence of how ESG factors are gradually becoming more prominent in CRA rating commentaries or relevant in contributing to rating opinions, clarifying methodologies and in sector research[23].

They are complemented by eight case studies that demonstrate how ESG consideration helped investors to assess the creditworthiness of selected companies and subsequently make investment decisions.

Environmental

Social

Governance

Corporate issuer: Deutsche Bank

Date: 17 November 2017

Action: Rating downgrade to BBB+ from A-

ESG factor: Governance

Key rationale: One reason for the rating action was related to heightened concerns regarding the group's governance in the context of senior management changes aiming to address strategic restructuring.

Source: Scope Ratings AG

Corporate issuer: Aberdeen Roads (Finance) Plc

Date: 23 February 2016

ESG factor: Environmental physical risk

Action: Outlook revised to negative from stable

Key rationale: Construction delays following flooding, utility diversion delays and uncertainty on whether the construction joint venture will be held responsible for the delays.

Source: S&P Global Ratings

Issuer: TransCanada PipeLines Limited (TCPL)

Date: 13 March 2018

ESG factor: Environmental transition risk

Action: Outlook revised to negative from stable, affirms A3 rating

Key rationale: TCPL faces uncertainty around its capital expenditure plans, most notably the KXL pipeline, which continues to be challenged by environmental opposition related to carbon dioxide emissions and climate change.

Source: Moody's Investors Service

Corporate issuer: Israel Electric Corp. (IEC)

Date: 20 July 2017

ESG factor: Human capital management

Action: CreditWatch negative placement

Key rationale: We placed IEC on CreditWatch following the recent strike by IEC's employees, which led us to revise IEC's liquidity assessment to less than adequate from adequate, exposing the rating to a multi-notch downgrade.

Source: S&P Global Ratings

23 Beyond Ratings and Scope Ratings GmbH presented sovereign credit risk examples that will feature in the third report of the series.

Sector analysis: Asset management

Date: 5 April 2018

ESG factor: Gender pay gap and corporate governance

Highlight: UK gender pay disclosures will drive better corporate governance for asset managers, a credit positive

Key finding: The public disclosure of the gender pay gap will bring more transparency to compensation inequality, which Moody's Investors Service expects will drive better corporate governance, despite some disruption at first, because of substantial discrepancies.

Source: Moody's Investors Service

Corporate issuer: Baltic Coast

Date: 22 July 2016

ESG factor: Environmental physical risk

Action: Baltic Coast Company rating D confirmed and revoked (Raex Moscow national scale)

Key rationale: JSC Baltic Coast used to carry out processing and conservation of fish and seafood. The default of the company – which was preceded by a series in downgrades – was triggered by significant losses of the company's main subsidiary - PJSC Russian Salmon - due to the spread of infectious diseases and mass fish death in Q3 2015.

Source: Rating-Agentur Expert RA

Corporate issuer: Yabang Investment Holding Group Co., Ltd.

Date: 14 February 2016

ESG factor: Weak corporate governance

Action: Rating downgrade from A to CC – outlook negative

Key rationale: Due to weak corporate governance, the CEO of Yabang Investment Holding Group was under investigation, which triggered banks calling in their loans and limited the company's access to bank financing. Meanwhile, the company had lost most of its external support and faced an acute shortage of liquidity. The credit risk increased significantly. The rating downgrade was based on China national scale.

Source: Dagong Global Credit Rating

Corporate issuer: Eurasian Natural Resources Corporation (ENRC) Plc

Date: 31 January 2012

ESG factor: Weak corporate governance

Action: Rating downgrade from Ba2 to Ba3 – outlook revised to negative

Key rationale: Aggressive acquisition and financial policy, likely deterioration in the issuer's financial profile.

Source: Moody's Investors Service

Corporate issuer: Vattenfall

Date: 7 June 2017

ESG factor: Environmental transition risk – Policy and legal risk

Action: Outlook Revised To Stable On Reduced Power Price Volatility; Affirmed At 'BBB+/A-2

Key rationale: Improved business risk profile due to the sale of lignite assets, regulatory changes in Sweden and Germany around nuclear waste and increased commissioned capacity from the expansion in wind production under different supportive subsidy schemes.

Source: S&P Global Ratings

Corporate issuer: Banque Fédérative du Crédit Mutuel SA

Date: 6 February 2018

Action: A+ issuer rating affirmed

ESG factor: Governance

Key rationale: Regarding the contemplated breakout of the Arkea Group from the Crédit Mutuel Group, Scope believes that the Crédit Mutuel Group's governance and strategy will not be impacted.

Source: Scope Ratings AG

Corporate issuer: IBL Banca Spa

Date: 12 March 2018

Action: Assignment of BBB issuer rating, with stable outlook

ESG factor: Governance

Key rationale: One rating driver was related to the bank's governance: the key-man role of the bank's CEO.

Source: Scope Ratings AG

Corporate issuer: Pacific Gas & Electricity Company (PG&E) and PG&E Corp.

Date: 20 March 2018

ESG factor: Governance and environmental physical risk

Action: Downgrade PG&E to A3 and PG&E Corp to Baa1, negative outlooks

Key rationale: The credit rating incorporates the [California] state's demanding public policy goals and an elevated level of political risk, especially given the company's history of safety and governance issues as well as potential substantial exposure to rising climate change-related liabilities such as wildfires.

Source: Moody's Investors Service

Methodology clarification: How social risks and opportunities feature into global corporate ratings

Date: 11 April 2018

ESG factor: Social

Action: Two-year review of how social factors incorporated into S&P Global Ratings' analyses and how these have affected corporate and infrastructure ratings from July 2015 to August 2017.

Key finding: Social factors contributed less frequently to rating actions than environmental and climate (E&C) factors. However, when material, they were overwhelmingly negative to credit quality compared to E&C factors; in particular, human capital and safety management have affected companies' credit quality more frequently than other social factors.

Source: S&P Global Ratings

Methodology update: Bank Ratings

Date: 10 May 2018

ESG factor: Mainly governance

Action: Introduces explicit reference to cyber and ESG risks.

Key rationale: Investors in bank debt are increasingly sensitive to governance which in Scope's view is particularly relevant in an ESG context. Banks' cyber risk is becoming of paramount relevance and cannot be discounted by credit investors, even if there are very few metrics for a credit analyst to measure it.

Source: Scope Ratings AG

CREDIT RISK CASE STUDY: RWE

CONTRIBUTOR	**Josef Helmes, Investment Director, Aberdeen Standard Investments (ASI)**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$779 billion (as of 31/12/2017)**
FIXED INCOME AUM	**US$195 billion (as of 31/12/2017)**
OPERATING COUNTRY:	**Global**
CASE STUDY FOCUS:	**How E and G factors affect credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

RWE is a German utility with operations across Germany, the Benelux, Eastern Europe and the UK. Similar to its German peers (E.on, EnBW) it has historically been active along the value chain in power generation, transmission, distribution and supply.

On the generation side, RWE is one of the biggest conventional power producers in Europe. It is also very well known for its large lignite generation fleet, with integrated lignite mining and generation activities in the Rhineland area (West Germany). Lignite is, from an environmental perspective, the least efficient way to produce electricity, given its high CO_2 emissions. RWE's lignite surface mining operations also affect local communities (including the relocation of complete villages).

RWE, similar to all the other German operators, suffered significantly from the German "Energiewende" – i.e. the massively subsidised build-out of renewables (solar/wind) in Germany. As a result of the "Energiewende", wholesale power prices collapsed. The preferred access of renewables to the power grid also had a "peak shaping" effect on intraday power prices (higher intraday demand meets the higher intraday solar output), making more environmentally-friendly gas-fired plants economically less viable ("out of the money"). Ironically, the importance of lignite has grown given its cheaper input costs (e.g. versus gas), a non-functional CO_2 Emissions Trading System (ETS) (CO_2 prices too low to penalise lignite/coal generators) and the decision by a Merkel-led government in 2011 (after Fukushima) for an accelerated phase-out of nuclear by 2022. On balance, the country's CO_2 emissions have not really come down given the current set-up of the "Energiewende". The role of lignite in this puts continuous pressure on German politicians to finally phase-out lignite at some point in the future.

As a side note: Given significant balance sheet pressure as a result of deteriorating earnings, RWE legally separated and bundled its grid/supply/renewable activities in 2016 from conventional power generation in a company called Innogy, followed by an Innogy IPO in the same year to extract more value out of the "good parts" of the group via an equity raise. RWE remained the controlling shareholder in Innogy (77% stake) and it recently announced the sale of this stake to E.on in a very complex transaction, which gives them a minority stake in the new E.on and control over the renewable businesses of both E.on and Innogy via an asset swap.

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

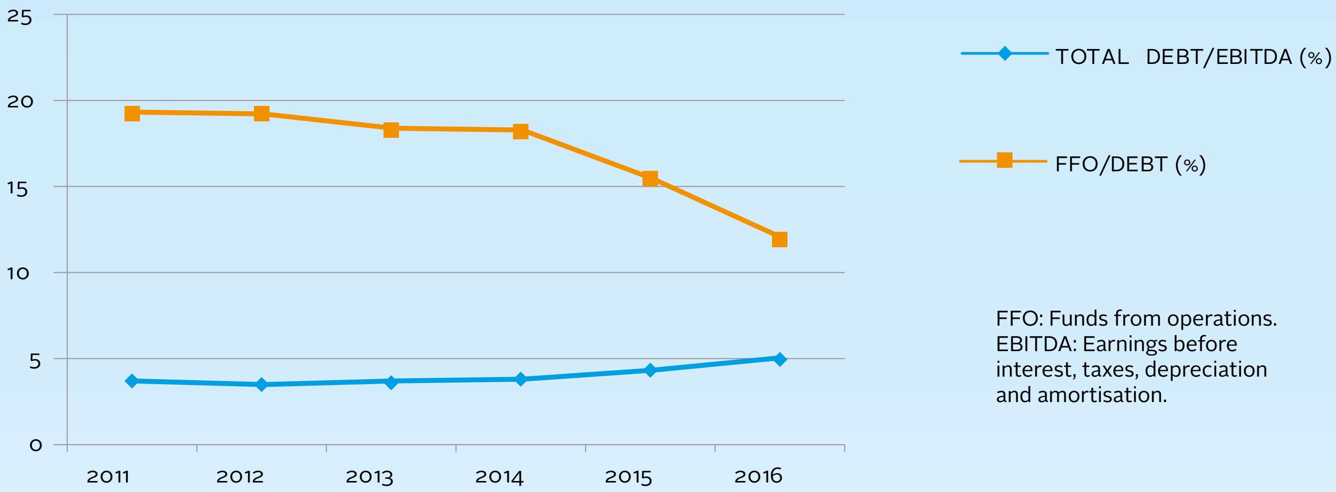
On the ESG side, both the credit and the internal SRI team were very much focused on environmental issues, i.e. RWE's significant carbon footprint, and this was also a discussion point in several meetings/calls we had with the company in recent years from both credit and SRI perspectives.

We saw the continued rise in renewable energy, more distributed (and decentralised) generation, and overall lower growth in the demand for energy as a result of efficiency improvements as a significant threat for the company. Disruptive technologies, including energy storage, could also challenge the economics of (conventional/centralised) power generation businesses.

In RWE's case, the significant exposure to lignite made the situation even more delicate. A gradual phase-out of lignite remains very likely at some point in the future, as this will be essential for the country to achieve its national CO_2 target. RWE is a typical example of a company with elevated stranded asset risk, with previous managements having for too long ignored the need to shift to more environmentally-friendly types of generation.

Our view was that the level of investment from RWE in renewables could have been higher in the last decade. Whereas its most direct competitor E.on (Uniper) benefitted from a higher share of more environmentally friendly gas-fired generation, for RWE, the need to move away from CO_2-emitting types of power generation was very significant.

Figure 33: Toxic combination of rising leverage and weakening business risk profile has driven RWE's credit rating and spreads. Sources: ASI, company accounts



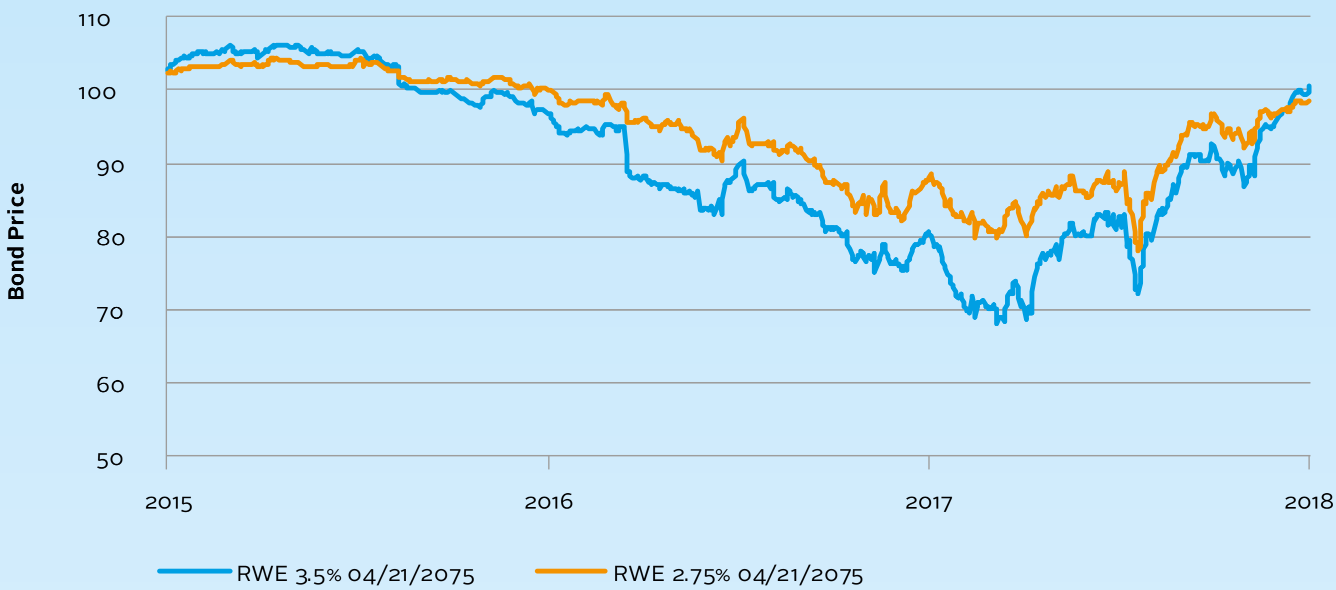
MARKET IMPLICATIONS

The above idiosyncratic (ESG-related) risks have driven our more cautious positioning, such as in 2015/2016 (see Figure 33). In April 2015, the company issued two (subordinated) hybrid debt instruments in a €1.25 billion transaction to bolster its stretched balance sheet (see Figure 34). Although part of our benchmark indices, we decided not to participate in the dual-tranche deal given the elevated risks in relation to their carbon/lignite exposure.

We benefitted from this decision: The hybrid instruments – initially rated low investment-grade (BBB-/Baa3) – were downgraded in August and October 2015 by both S&P and Moody's to BB+/Ba1 and thereby lost their investment-grade/benchmark eligibility. This triggered forced selling and a large underperformance of these instruments.

The stranded asset risk has impacted the business risk assessment of the RWE group by the agencies. This in combination with deteriorating credit metrics triggered several rating downgrades.

Figure 34: RWE EUR Hybrid debt performance since launch in April 2015. Source: Bloomberg



KEY TAKEAWAYS

- Lesson learnt: do not ignore environmental risks in credit analysis; there are other examples like VW (emissions scandal) or BP (oil spill in the Gulf of Mexico) that underline the importance of considering environmental risk factors in the analysis of individual credits.
- Companies must adapt to climate change and the rise of renewables – companies like RWE have for too long ignored the structural changes in global energy markets.

COMPANY INFORMATION

ASI is an asset management firm. ASI manages equities, fixed income, property and tailored investment solutions spanning multiple asset classes (including alternatives and quantitative investment). For more information, see www.aberdeenstandard.com.

CREDIT RISK CASE STUDY: CORECIVIC

CONTRIBUTOR	**Dan Lavric, CFA, Portfolio Manager, Core Fixed Income, Addenda Capital**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$20.9 billion (as of 31/12/2017)**
FIXED INCOME AUM	**US$14 billion (as of 31/12/2017)**
OPERATING COUNTRY:	**Canada**
CASE STUDY FOCUS:	**Example of how S and G factors affect credit risk**

BACKGROUND TO THE INVESTMENT CASE

CoreCivic is the largest non-government owner of correctional and detention real estate in the US. CoreCivic develops, owns and operates prisons and jails for US government entities. As of 31 December 2017, CoreCivic owned and managed 70 real estate assets and 12 more properties leased to third parties. CoreCivic's long-term debt is not considered investment grade by Moody's (Ba1) or S&P (BB) but its ratings steadily improved from 2000 through 2016, at which time both agencies downgraded the company. In October 2017, the company announced the issuance of US$250 million of senior unsecured notes due in 2027.

CoreCivic's main competitor is The GEO Group, which has an enterprise value roughly one-third larger than CoreCivic's. The company's larger peers are generally not investment grade, while its smaller peers are mainly private and unrated, relying primarily on bank funding.

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

The sustainable investing team worked with the core fixed income team to arrive at the investment decision, which was to not participate in the issue. A portfolio manager in the core fixed income team had been looking at the investment opportunity and reached out to the sustainable investing team for ESG research on CoreCivic. Although the finances, business model and valuation were initially promising, research on ESG risks caused the team to change their minds and rule out the opportunity.

There were multiple ESG-related investment concerns including that the company had changed its name to rebrand its image, raising a red flag. The issuer had been trapped between two activist groups: one that demands more spending on prisons (citing poor living conditions, understaffing, human rights violations) and another demanding less spending on prisons (citing high operating cost/detainee, high US incarceration rate). This could be a future risk for profit margins. Additionally, recent cases of activist groups trying to vilify CoreCivic's lenders could cause reputational damage to future investors.

Another concern was that, in 2017, New York City's pension funds made the decision to sell their investments in private prison companies. The main reason was the record of alleged human rights abuses and the risk of the industry experiencing "long-term reputational and financial harm". These issues could cause lower demand for CoreCivic's bonds and in turn damage valuation.

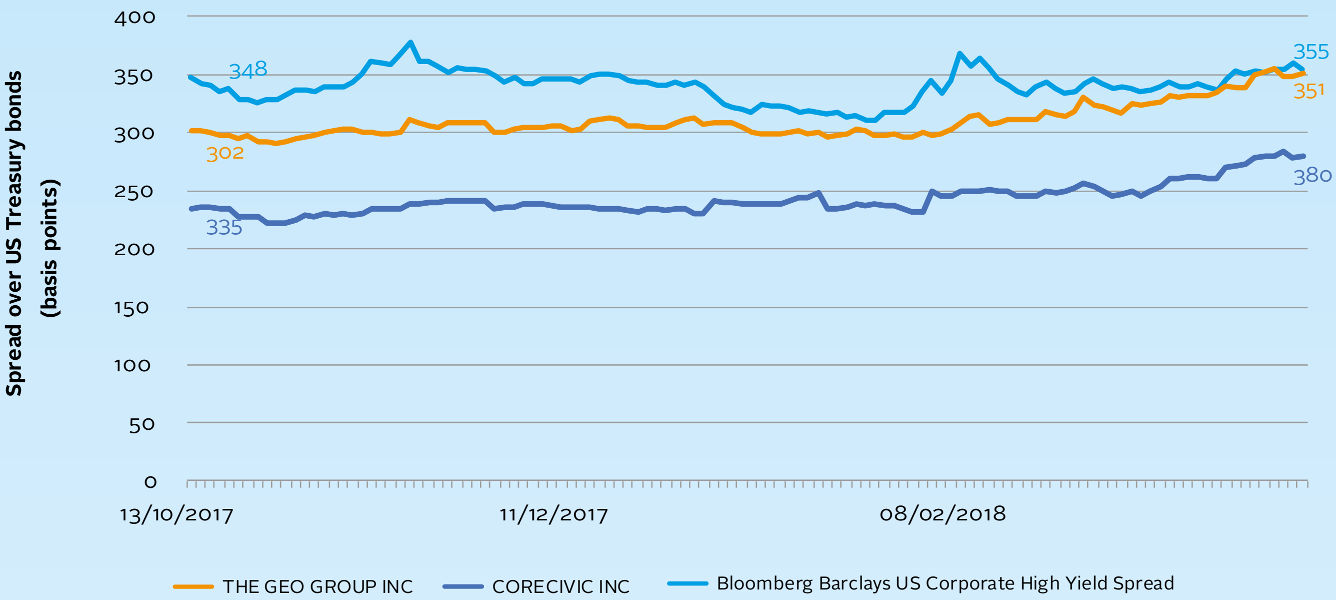
Lastly, limited disclosure by CoreCivic regarding ESG factors – despite calls for greater transparency – mean many unknown unknowns may be uncovered in the future, should disclosure improve.

MARKET IMPLICATIONS

Between when we started following CoreCivic and the writing of this note, the yield spread over US Treasury bonds on the company's longest maturity bond (2027-10-15) widened by 45bps, equivalent to a 3.3% price erosion due to spread widening (see Figure 35).

Our expectations about ESG risk being concentrated in the industry as well as the issuer appear to have been warranted, as the spreads of a similarly termed bond from its main competitor, The GEO Group, also widened (by 49bps). By contrast, the spread on the US high-yield market widened by only 8bps (from 348 bps to 355bps) over the same period.

Figure 35: CoreCivic bond has underperformed the US high yield corporate benchmark since October 2017. Source: Bloomberg



KEY TAKEAWAYS

This investment case helps further convey the message that even when the business model, finances and valuation of an investment seem attractive initially, sustainability considerations can change the big picture and thus change an investment decision. Even before traditional financial metrics worsen, sustainability considerations can affect investment decisions. In the case of CoreCivic, the considerations were a mix of concerns about the company's governance and business model.

COMPANY INFORMATION

Addenda Capital Inc. is a Canadian privately-owned investment management firm responsible for investing more than $27 billion in assets for pension funds, insurance companies, foundations, endowment funds, and third-party mutual funds of major financial institutions.

CREDIT RISK CASE STUDY: DIALYSIS SERVICE PROVIDER

CONTRIBUTOR	**Roman Rjanikov, Director of Research and Assistant Portfolio Manager, DDJ Capital Management, LLC (DDJ)**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$7.63 billion (as of 30/4/2018)**
FIXED INCOME AUM	**US$7.63 billion (as of 30/4/2018)**
OPERATING COUNTRY:	**US**
CASE STUDY FOCUS:	**Example of how G and S factors affect credit risk assessments in the high-yield market.**

BACKGROUND TO THE INVESTMENT CASE

The company is a provider of kidney dialysis services for patients suffering from end-stage renal disease (ESRD), commonly known as kidney failure. Patients with ESRD need dialysis to artificially remove toxins, fluids and salts from their blood stream, as their kidneys can no longer perform this function. The company provides dialysis services in the US through a nation-wide network of outpatient centres.

ESG FACTORS WHICH CONTRIBUTED TO THE INVESTMENT DECISION

In recent years, the company has on several occasions engaged in relatively aggressive (and, in some cases, arguably illegal or unethical) practices to boost reimbursement (and profit) from insurers and the US government. In its investment assessment, DDJ concluded that these practices constitute meaningful social and governance risks to investors in the company. Below are a few examples:

- In May 2015, the company agreed to pay $495 million to settle a whistleblower lawsuit initiated in 2011 by former employees that accused the company of deliberately wasting medicines to receive higher Medicare payments. The lawsuit alleged that the company illegally used larger-than-necessary medicine vials or unnecessarily spread medicine dosages across multiple treatments, knowing that Medicare would pay for what it considered "unavoidable" waste.
- In late 2016, the company was reportedly "steering" ESRD patients into Affordable Care Act exchange plans, resulting in higher reimbursement paid to the company, though occasionally at a higher out-of-pocket cost to patients. Subsequent to these allegations, the Centers for Medicare and Medicaid Services (CMS) required dialysis providers, including the company, to respond to a request for information related to patient steering. CMS has said that it is considering changes to address this practice, including imposing financial penalties on individuals and facilities for failing to provide correct coverage information to patients.
- Finally, the company has historically made significant voluntary contributions to the American Kidney Fund (AKF), which is common within the dialysis service provider industry. The AKF is a not-for-profit organisation primarily engaged in charitable assistance by helping dialysis patients pay for commercial insurance premiums. Commercial insurance reimburses dialysis operators at significantly higher rates than government payors. Though charitable premium assistance by dialysis service providers is technically legal according to an advisory opinion issued by the Department of Health and Human Services in 1997, the practice has more recently fallen under increased public scrutiny and is now perceived by some as "fraud gaming abuse" by dialysis operators.

The company has issued high-yield bonds. The major credit agencies identified the Medicare overbilling incident (which cost the company $495 million in the related settlement) in their rating reports, but they deemed that the financial impact was not large enough to warrant a negative change in the rating at that time. Additionally, the ratings reports have been generally silent on other ESG-related matters or mention them only tangentially.

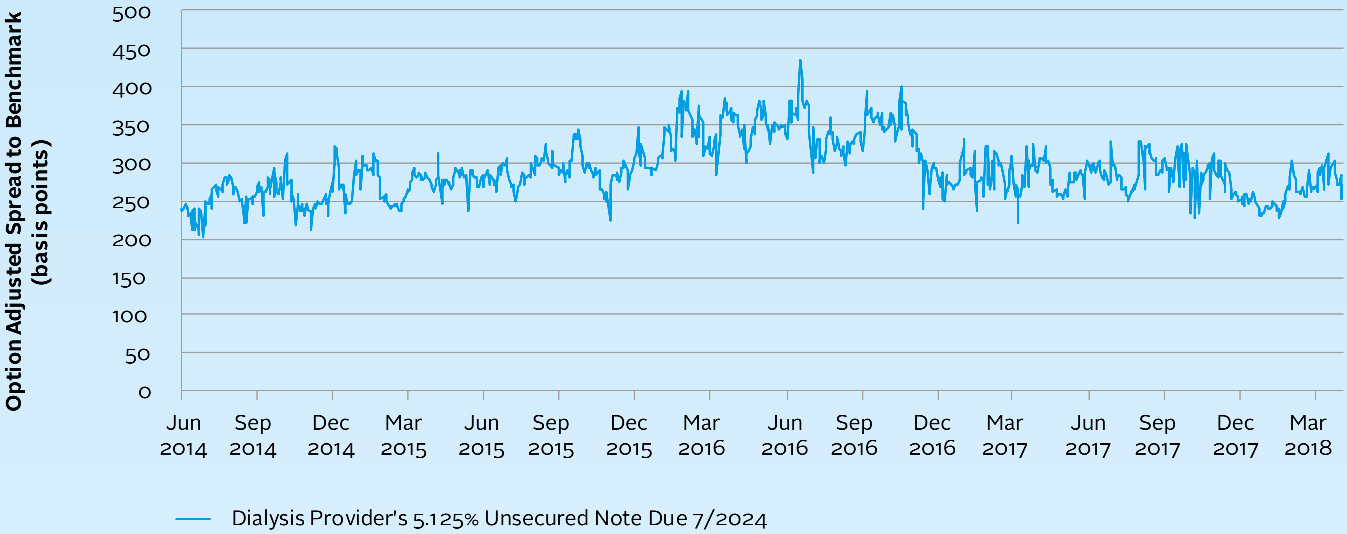
As it pertains to ESG factors specifically, the third-party ESG ratings vendor used by DDJ acknowledged the company's "repeated allegations of questionable billing practices," but still rated the company BBB, which is above the median rating within a peer group of the 10 largest healthcare providers. Based on its own fundamental research and due diligence of the company, DDJ believes that this ESG rating is too favourable in light of the social and governance risks highlighted above.

MARKET IMPLICATIONS

For reference only, the chart below shows the relevant bond's spread over the period in question (see Figure 36). As with any other credit, the spread was affected by a range of factors, not to mention overall market conditions.

As such, the spread change observations may not be statistically significant to draw any direct link to the ESG issues identified in this paper. That said, DDJ highlights a short-lived spike in spread around October 2016, which is when the allegations that the company had steered patients into ACA Exchange plans was first made public.

Figure 36: DDJ highlights a short-lived spike in October 2016, when the allegations that the company had steered patients into ACA Exchange plans was first made public. Source: Bloomberg



KEY TAKEAWAYS

DDJ believes that its fundamental analysis of the company provides a useful example of how rigorous bottom-up credit research can identify ESG risk factors that are perhaps not properly appreciated by third-party ESG score providers, credit rating agencies or by the rest of the market. In this instance, based on DDJ's due diligence, persistent social and governance concerns have contributed to DDJ's decision to avoid investing its clients' portfolios in the company's debt. However, should the company's debt trade to attractive levels in the future, DDJ will revisit its credit analysis to determine whether the social and governance concerns have been mitigated or the bonds have traded to levels where DDJ believes that its clients will be appropriately compensated for assuming such ESG-related risks.

COMPANY INFORMATION

DDJ Capital Management, a signatory of the PRI since 2016, is an institutional manager specialising in fixed income investments within the leveraged credit markets. Since DDJ's inception in 1996, it has sought to generate attractive risk-adjusted returns for our clients by adhering to a value-oriented, bottom-up, fundamental investment philosophy. DDJ's investment team has extensive experience investing in securities issued by non-investment grade companies within the lower tier of the credit markets, including high yield bonds, bank loans and other special situation investments. DDJ, a Massachusetts-based independently-owned investment manager, has been registered with the Securities and Exchange Commission since 1997.

CREDIT RISK CASE STUDY: AGL ENERGY

CONTRIBUTOR	**Chris Newton, Executive Director, Responsible Investment, and Nick Zannis, Associate Director, Debt Investments, Asia, IFM Investors (IFM)**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$78 billion (as of 30/04/2018)**
FIXED INCOME AUM	**US$22 billion (as of 30/04/2018)**
OPERATING COUNTRY:	**Global**
CASE STUDY FOCUS:	**Example of how E factors affect credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

AGL Energy (AGL) is an Australian integrated energy company. AGL is listed on the ASX (Code: AGL) and is an S&P/ASX 50 company by market capitalisation. The company operates retail and merchant energy businesses, power generation assets and an upstream gas portfolio. At the time of writing, it is rated by Moody's Investors Service as Baa2/stable[24].

IFM Investors has invested in AGL directly, in assets now owned by AGL Energy and in assets where AGL was the key off-taker which underpinned our counterparty risk to the borrower. This has allowed IFM to access senior management and provide IFM with a good understanding of the ongoing business strategy.

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

IFM's investment team incorporated a number of ESG considerations in their due diligence and credit assessment process. The credit assessment analysed the portfolio impact in terms of concentration and diversification, and also included ESG issues and their impact.

Financial analysis conducted on the AGL business included:

- review of profit and loss, balance sheet and credit metrics;
- stress test and review of financial covenants;
- analysis of and refinancing risk considered for capital structure and debt maturity; and
- peer analysis.

Initial analysis highlighted risks associated with climate change due to AGL's significant exposure to coal. As a result of the potential material financial impact of these environment-related risks, the IFM investment team further investigated. Further investigation and analysis of identified climate change risks involved a variety of external sources including Regnan/MSCI, equity research reports and general market information, in addition to meetings with AGL management.

As one of Australia's largest greenhouse gas-emitting businesses, it was clear that AGL recognises the role it plays in Australia's clean energy future. As such, company strategy focuses on reducing greenhouse gas emissions, while providing secure and affordable energy to customers.

AGL's specific strategies to progressively increase the volume of energy generated from renewable sources, while gradually retiring coal-fired thermal generation plants, had a positive impact on the investment team's credit assessment of the company.

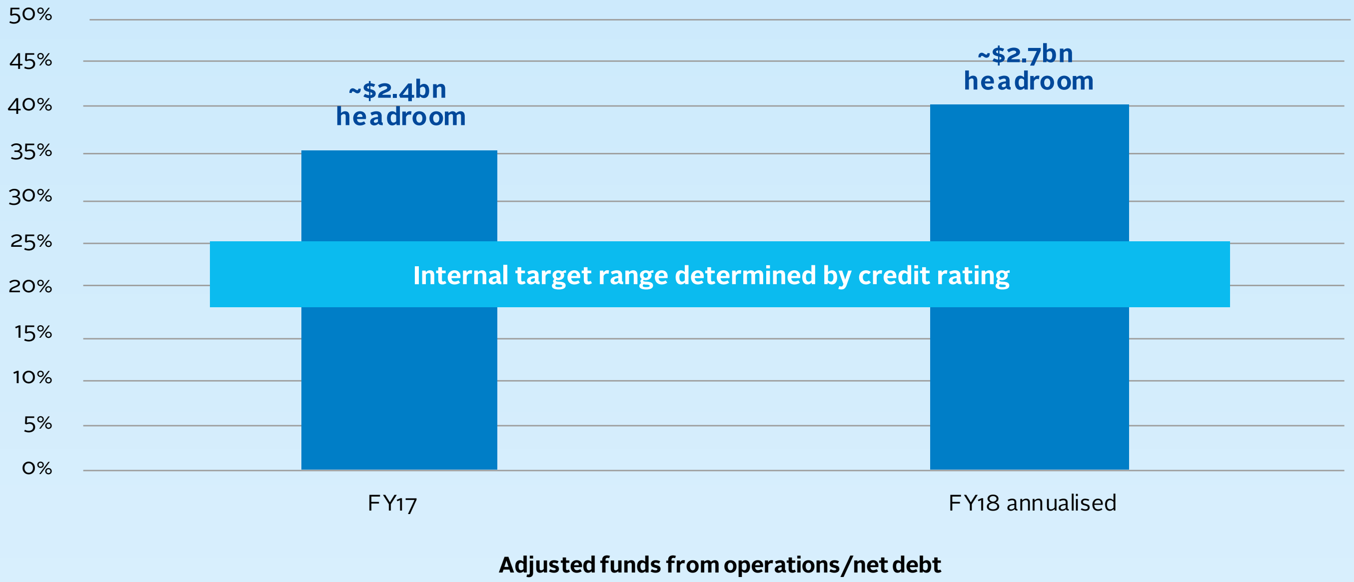
Comprehensive analysis helped the investment team determine that AGL's strategy to reduce and/or mitigate climate change risks on the business was sufficient to mitigate financial implications over the long term.

24 See 'Moody's assigns Baa2 rating to AGL with a stable outlook', 8 February 2016.

MARKET IMPLICATIONS

AGL has maintained a steady credit profile over the last five years. Each investment is assessed by IFM Investors on the credit profile, relative value and the risk-adjusted returns for each of their portfolios. The chart below shows one of the key credit metrics that we analyse: funds from operations to net debt ratio (see Figure 37). This measures the ability of a company to pay off its debt using operating income. The higher the ratio, the stronger the position the company is in to pay off its debt. AGL seeks to maintain comfortable headroom for its current credit rating while also looking to maintain a diversified and staggered debt maturity profile, and maintain sufficient undrawn debt facility to cover its liquidity needs. As a result, IFM was comfortable to support AGL and proceed with an investment.

Figure 37: AGL funds from operations to net debt ratio. Source: AGL Energy FY18 Interim Results | 8 February 2018



KEY TAKEAWAYS

A good corporate strategy can mitigate significant risk: a comprehensive due diligence approach to incorporating ESG considerations into credit analysis highlighted AGL's solid corporate strategy to mitigate the financial impact of climate change on AGL's business model over the long term.

COMPANY INFORMATION

IFM Investors is a global fund manager with US$81 billion assets under management as of 31 March 2018. Established more than 20 years ago and owned by 27 Australian industry superannuation funds, IFM Investors' interests are deeply aligned with those of its investors. Investment teams in Europe, North America, Asia and Australia manage institutional strategies across infrastructure (equity and debt), debt investments, listed equities and private equity. IFM Investors is a responsible investor and is committed to the UN-supported Principles for Responsible Investment and has been a signatory since 2008. IFM Investors has offices in eight locations; Melbourne, Sydney, New York, London, Berlin, Tokyo, Hong Kong and Seoul. For more information, please visit www.ifminvestors.com.

CREDIT RISK CASE STUDY: STEINHOFF

In this case study, two investors, Man Group and nordIX AG, explain their assessment of the credit risk of Steinhoff International (SNH), how they formed their view and reached an investment decision that was driven by growing governance concerns about the company.

CONTRIBUTOR	**Jeffrey Burch, Managing Director, Man Group**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$113 billion (as of 31/03/2018)**
FIXED INCOME AUM	**US$16 billion (as of 31/03/2018)**
OPERATING COUNTRY:	**Global**
CASE STUDY FOCUS:	**Example of how G factors affect credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

Steinhoff International (SNH) is a large conglomerate focused on discount products in the general (non-food) retail space. Originally founded in Germany but headquartered in Stellenbosch, South Africa, Steinhoff has a primary equity listing in Frankfurt and secondary listing in Johannesburg. In 2017, according to company filings, roughly 60% of the company's revenue came from Europe, 32% from Africa and the rest from Australasia and North America.

Over the past 50 years, Steinhoff grew from a small, local retailer into an international conglomerate. The majority of this recent growth was achieved through acquisitions. Recent acquisitions include Poundland, a UK discounter, Pepkor, a South African-based discounter, Conforama, one of the largest furniture retails in Europe, and Mattress Firm, a US-based bed and mattress company.

Steinhoff's debt capital structure consisted of loans, bonds and convertible bonds. The €1.1 billion 2023 convertible bond issued in 2016 was the largest of the liquidly trading instruments. Steinhoff was rated Baa3 by Moody's and Aa1.za on the South Africa local scale (based on Bloomberg data and Moody's Investors Service).

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

Our discretionary credit and convertible funds were either outright short or underweight Steinhoff risk. Our negative view was reached after our bottom-up credit research could not fully explain the company's revenue to cash flow conversion. In addition, the company's long history of growth by acquisition made us uncomfortable. Our discretionary fixed income funds generally tend to avoid companies that make substantial acquisitions in many regions around the world as the integration and management of these deals has proven troublesome for many companies in the past. In addition, the limited industrial logic behind many of the acquisitions, due to different geographical end-markets and product categories of acquired companies, coupled with opaque financial disclosures, raised red flags about potential financial statement manipulation.

In August of 2017, a German magazine reported that the company's CEO Markus Jooste was being investigated for possible accounting fraud. In addition, there were allegations around related party transactions involving current and former employees that were not properly disclosed by the company. Although these allegations were rebutted by the company, when we engaged with rating agencies and other market participants we were still not convinced that the market was correctly valuing this downside risk.

Governance is one of the most important factors to evaluate when investing in fixed income securities. Bondholders are looking to be repaid in full and poor governance can easily jeopardise this, changing the current market price of the bonds and potentially impacting the final maturity.

Governance is also notoriously hard to score on an absolute basis or model into traditional forward-looking credit metrics. We tend to use a red flag system where credits that are flagged with poor governance are avoided. Steinhoff's history of serial acquisitions involving limited industrial logic, combined with the accounting fraud allegations, raised a red flag for us.

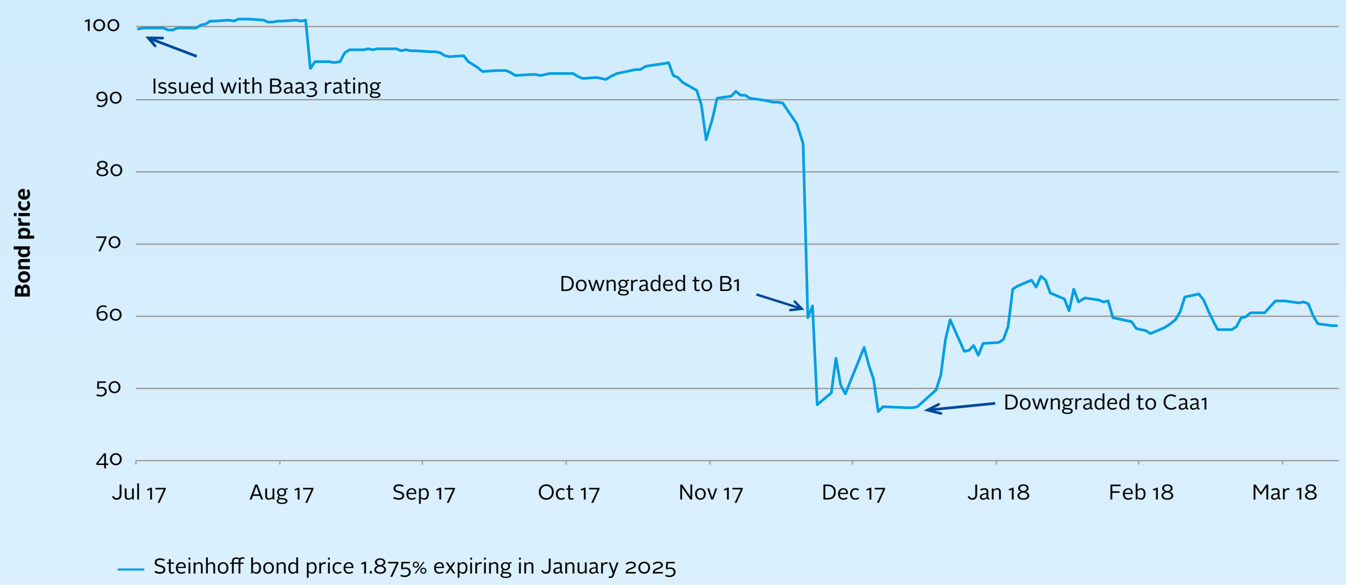
MARKET IMPLICATIONS

The August 2017 news around alleged accounting irregularities initially pushed yields up by about 1 percentage point and dropped bond prices. Further questions raised in November had a similar impact, but the biggest drop came in early December 2017 when the company announced that the auditors had not signed off on the final results for the year. CEO Markus Jooste resigned the next day (see Figure 38).

KEY TAKEAWAYS

The Steinhoff case illustrated again the importance of using ESG analysis in fixed income investing. Environmental and social issues can be more difficult to include in traditional credit analysis but governance has always been and always will be a key factor in determining the creditworthiness of an issuer. For Steinhoff, it was less the change in specific traditional credit metrics that gave us pause, but more the overall governance and strategic issues with the company. Situations like this remind bondholders of the tremendous downside risk that can arise when a company's governance is called into question.

Figure 38: Steinhoff bond 1.875% expiring in January 2025 has been trading significantly below par since its issuance. Sources: Bloomberg and Moody's Investors Service



COMPANY INFORMATION

Man Group is an active investment management firm focused on delivering attractive performance and client portfolio solutions, deploying the latest technology across our business to help ensure we stay at the forefront of our evolving industry.

We provide long-only, alternative and private markets products on a single and multi-manager basis. We develop bespoke solutions and fund of hedge fund services which use the firm's advanced technology, infrastructure and expertise. We continuously invest in technology, talent and research as we strive to deliver the best results for our clients.

Across our investment managers, we manage US$109.1 billion for our global clients, with institutional investors contributing 82% of the group's funds under management.

STEINHOFF (CONTINUED)

CONTRIBUTOR	**Christoph Klein, Partner, nordIX AG**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$413 million (as of 31/03/2018)**
FIXED INCOME AUM	**US$413 million (as of 31/03/2018)**
OPERATING COUNTRY:	**Germany**
CASE STUDY FOCUS:	**Example of how G factors affect credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

Although SNH's bond suffered significantly since the company admitted to accounting irregularities in December 2017 and the CEO, Christoffel Wiese, subsequently departed, there had been several warning signals – mainly governance-related – that raised concerns prior to that. For instance, the CEO was very influential, holding 23% of SNH's international and outside retail interests in high yield issuers like Iceland Foods via Brait SE. Furthermore, SNH expanded aggressively since moving its primary share listing from Johannesburg to Frankfurt in 2015, acquiring Britain's Poundland, US-based Mattress Firm and Australia's Fantastic[25]. Between 2013 and 2017, SNH spent almost €5 billion.

MSCI downgraded SNH's ESG rating to BB on 21 December 2015, driven by poor governance and accounting standards and, on 21 December 2017, further to B, reflecting the escalation of the accounting scandal and the need to restate the company's financial results[26]. On 7 December, Moody's also downgraded SNH from Baa3 to B1, citing uncertainties and implications for the company's liquidity and debt capital structure arising from an announcement by its supervisory board on 6 December 2017[27].

In 2018, SNH raised an additional €480 million by placing PSG Group shares, adding to €300 million collected since December 2017. Further asset sales may be necessary given SNH's financial obligations due in 2018 amounting to €1.5 billion[28]. Therefore, bond prices currently remain at distressed price levels.

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

nordIX AG noted that there were already red flags about corporate governance in the 2016 accounts due to the lack of important cash flow data, as reported by Bloomberg. However, using a quantitative model based on discriminant analysis as part of the credit investment process, Christoph Klein created a score (CK-rating) that can be calibrated to a rating and compared with that of other CRA ratings[29].

Metrics used in the traditional credit risk models include the ratio of free cash flow to total liabilities; the stability of operating cash flows (the mean of cash flow from operations divided by the standard deviation of cash flow from operations); retained earnings divided by total assets (reflecting historical profitability and a company's dividend and shareback policy, which can signal aggressive shareholder value); and total market value size.

MARKET IMPLICATIONS

The table ahead shows how the above methodology contributed to our negative view (see Figure 39). Using 2015-2016 accounts and making simulations for 2017, based on, for example, different evaluations of the company's assets and what could be liquidated to raise cash as well as possible penalties and restructuring charges, the CK-rating would have produced a score of -1.71, equivalent to a B2 (which then can be compared to a CRA rating).

25 Strydom, T.J. Steinhoff accounting scandal sinks shares, CEO exits, Thomson Reuters, 12 December 2017.

26 MSCI ESG Research, Steinhoff International Holdings, 23 March 2018.

27 'Moody's downgrades Steinhoff to B1 from Baa3, rating on review for further downgrade', 7 December 2017, Moody's Investors Service.

28 Allen, C.; Liu S., Steinhoff Research Primer, Bloomberg, 2018.

29 For more information about CK-rating, see Klein, C. 'Analysis and Evaluation of Corporate Bonds', Handbook of Finance, F.J. Fabozzi, Wiley & Sons, Hoboken 2008, volume 2, pp. 447-454 and Klein C. 'Integrating ESG into the Fixed-Income Portfolio' CFA, 2015 CFA Institute, Q4 2015.

Figure 39: Steinhoff accounting simulation and CK-rating. Sources: Company filings, Bloomberg and nordIX.

KEY FINANCIAL METRICS	2017 CK Simulation	2016 Actual	2015 Actual
Total Assets (€ bn)	28.0	32.2	23.1
Free Cash Flow (€ bn)	-1.0	NA	1.1
Total Liabilities (€r bn)	15.0	16.2	9.7
Cash from Operations (€ bn)	1.2	NA	1.5
Retained Earnings (€ bn)	-8.0	-5.6	4.4
Total Market Value (€ bn)	1.0	30.4	24.6
Interest Coverage Ratio	2.0	9.3	5.4
Total Debt/Total Assets (%)	50.0	25.1	201.4
Free Cash Flow/Total Liab. (%)	-6.7	NA	11.7
(Inverse) Variation Coefficient of CFO	1.5	2.1	2.4
Retained Earnings/Total Assets (%)	-28.6	-17.5	19.2
CK-SCORE	-1.7	0.3	0.1
CK-RATING	B2	BBB2	BBB2
Memo: Moody's Investors Service Rating		Baa3	Baa3

NA Not Available

KEY TAKEAWAYS

- The SNH case shows the importance of considering material and relevant ESG factors such as accounting quality and M&A aggressiveness besides “classic” financial metrics.
- nordIX AG’s next task is to construct quantitative credit rating models which also use material ESG KPIs as input for internal rating assessments and simulations.

COMPANY INFORMATION

Founded in 2009, nordIX AG is active as an asset manager for individual clients and mutual funds, acting as a broker in fixed income securities for institutional investors and banks, with core competency in bonds and fixed income products. The brokerage team has a focus on illiquid bonds from financial institutions and governments and relies on an international network which comprises banks, asset managers and other institutional investors.

CREDIT RISK CASE STUDY: A CANADIAN MORTGAGE LENDER

CONTRIBUTOR	**Altaf Nanji, CFA, Managing Director and Head of Credit, Manulife Asset Management**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$394 billion (as of 31/03/2018)**
FIXED INCOME AUM	**US$163 billion (as of 31/03/2018)**
OPERATING COUNTRY:	**Global**
CASE STUDY FOCUS:	**Example of how G factors affects credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

A Canadian mortgage lender issued a senior unsecured coupon bond in May 2014, which would mature after three years. Near maturity, the Ontario Securities Commission (OSC) issued enforcement notices against the firm over allegations of misrepresenting public disclosures. The firm's investment-grade credit rating (BBB/BBB(H)) was put on negative watch on 30 March 2017 and the OSC escalated its investigation shortly after. Allegedly, the company had experienced broker-related fraud earlier due to lapses in risk management. The company conducted an internal investigation after becoming aware of discrepancies in income verification information submitted by its mortgage brokers; however, this information was allegedly not disclosed to the public in a timely manner.

ESG FACTOR WHICH DROVE THE INVESTMENT DECISION

Manulife Asset Management's Canadian fixed income team began to materially reduce their exposure to the company in the last quarter of 2016 as awareness grew that the company was not handling discussions with the regulator well. The team's view was that it was not uncommon for a company to disagree with a regulator but that the handling of the regulatory environment could play an important role in determining how large an issue could become.

At the end of March 2017, the company's chief executive left unexpectedly and the regulator began escalating its investigation. Growing concern with the company's approach to managing the regulatory investigation, coupled with increased regulation for Canadian residential mortgages due to an over-heated housing market, led the team to enter into a second stage of exposure reduction, liquidating positions fully in April 2017 in the specialised lender at prices above par. The team recognised that there was a high risk that the lender's credit profile would deteriorate. As the situation worsened, the company experienced a run on deposits and by early May its credit ratings declined from solid-BBB to weak-B levels and bond prices correspondingly fell well below par.

In early May, Manulife Asset Management's head of credit research examined the aforementioned bond – now very close to maturity and pricing well below par – and found that the market had overreacted to the corporate governance and regulatory concerns. Old management had been removed and this made the team more comfortable with the company's corporate governance. The incoming CEO had solid experience in the banking sector and signalled to the market that the issue would be quickly resolved with the regulator. These changes, together with the line of credit secured by the company, was viewed positively by the team. They took the view that the emergency line of credit was to secure liquidity to pay off the maturing bonds rather than begin bankruptcy negotiations.

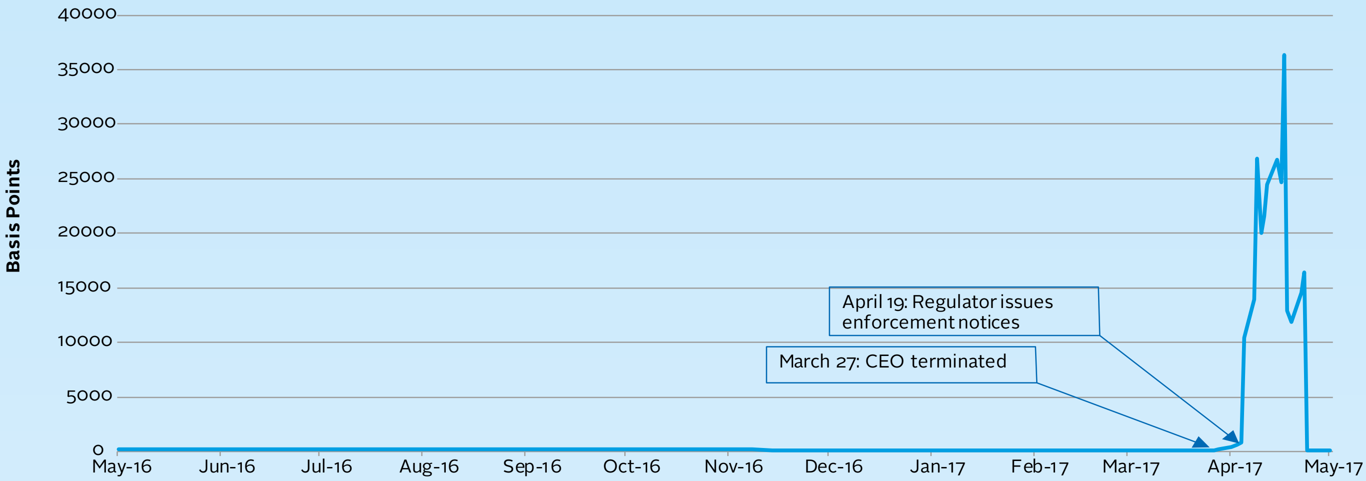
While the team did not previously own this particular bond, the head of credit research made a buy recommendation to the team based on the following conclusions:

- **Base scenario:** the company would remain a going concern through the maturity date of the 2017 bonds and would have ample liquidity to repay the principal amount.
- **Best case:** the company would be sold to an organisation which had sufficient financial strength to alleviate its short-term funding issues. This would see the 2017 notes migrate towards par earlier than the actual maturity date.
- **Worst case:** a worst case scenario would involve the company being deemed insolvent prior to the maturity of the 2017 notes and being placed into receivership. The primary risk in this scenario would involve the company defaulting on payment, with the subsequent recovery taking time, thereby negatively impacting projected returns.

The Canadian fixed income team proceeded with the recommendation (see Figure 40). Over time, the company navigated through the period of stress and remains a going concern.

MARKET IMPLICATIONS

Figure 40: The company's spreads widened significantly in the face of the regulatory and corporate governance risks. Bond spread vs. Benchmark*. Source: Bloomberg



*Benchmark is a Canadian treasury bond with similar maturity date

KEY TAKEAWAYS

The investment case highlights that careful consideration of governance and regulatory factors in fundamental analysis can help market participants to better price risk, which can lead to a reduction in exposure during periods of uncertainty or the addition of an exposure buy when the market has overreacted to these factors.

COMPANY INFORMATION

Manulife Asset Management is the global asset management arm of Manulife Financial Corporation (Manulife). We provide comprehensive asset management solutions for investors across a broad range of public and private asset classes, as well as asset allocation solutions. We also provide portfolio management for affiliated retail Manulife and John Hancock product offerings.

Our investment expertise includes public and private equity and fixed income, real estate and infrastructure equity and debt, timberland and farmland, oil and gas, and mezzanine debt. We operate in the US, Canada, Brazil, the UK, New Zealand, Australia, Japan, Hong Kong, Singapore, Taiwan, Indonesia, Thailand, Vietnam, Malaysia, the Philippines, as well as through a China joint venture, Manulife TEDA. We also serve investors in select European, Middle Eastern, and Latin American markets. As at 31 March 2018, assets under management for Manulife Asset Management were approximately C$508 billion (US$394 billion, GBP£281 billion, EUR€320 billion). Additional information may be found at ManulifeAM.com.

CREDIT RISK CASE STUDY: AN EMERGING MARKET QUASI-SOVEREIGN ISSUER

CONTRIBUTOR	**Nish Popat, Senior Portfolio Manager, Emerging Markets, and Greg Magnuson, Senior Research Analyst, Emerging Markets Debt, Neuberger Berman**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$299 billion (as of 31/03/2018)**
FIXED INCOME AUM	**US$135 billion (as of 31/03/2018)**
OPERATING COUNTRY:	**Global**
CASE STUDY FOCUS:	**Example of how G factors affects credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

ESG factors can be particularly important to credit quality in emerging markets (EM) fixed income. This particularly applies to quasi-sovereign issuers that are exposed to both sovereign and corporate risks. In this example, our proprietary assessment of ESG risks at a quasi-sovereign company allowed us to avoid an initial governance scandal and then opportunistically take advantage of the mispricing of the associated risk.

ESG FACTOR WHICH DROVE THE INVESTMENT

Before we assess the ESG risk of a corporate issuer, we leverage the expertise of our sovereign team to understand country-specific ESG risk factors, which comprise 40% of our country credit model, and include issues such as political stability and security, and corruption. These signals can remain weak even as broader macroeconomic indicators improve in a country. This understanding of sovereign risk can be important when assessing sovereign-owned corporate issuers, as credit or ESG risk factors are often obscured.

Due to its frequent issuance and significant weight in EM benchmarks, a sovereign-owned oil and gas company presented a unique case. Since 2011, the company's credit profile suffered from government involvement in corporate decision making, which led to the use of the company's balance sheet to subsidise the country's fuel prices and ambitious infrastructure projects. Given our concerns about deteriorating credit metrics and corporate governance, in 2014 we were underweight the issuer relative to the benchmark. However, we maintained exposure to the country's oil and gas sector by taking positions in other, more fairly valued, off-benchmark issuers.

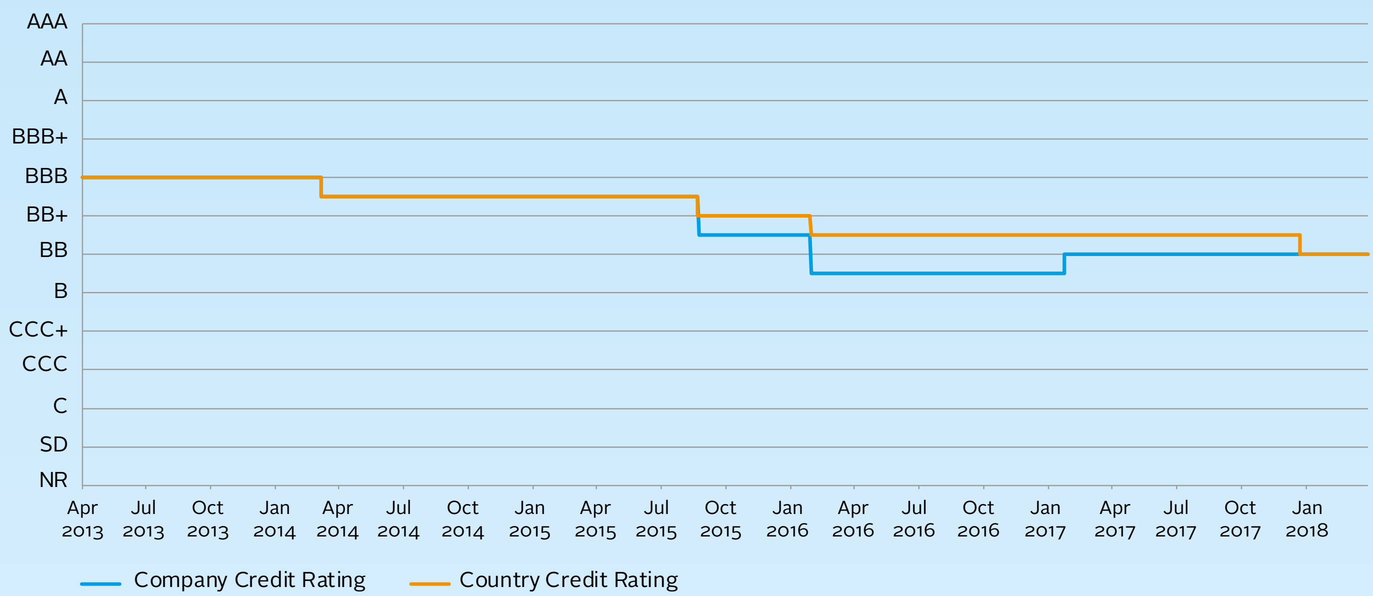
In late 2014, the company was implicated in a corruption scandal. The scandal's impact on the balance sheet caused the release of key financial disclosures to be postponed, causing significant volatility as it restricted the company's market access and called into question the adequacy of its liquidity position. During the fourth quarter of 2014, we reviewed companies that had derivative exposure to the issuer and the scandal, and exited these positions to mitigate risk. At the same time, we felt that the issuer debt itself was excessively penalised by the market, and because of our confidence that the sovereign support would enable the company to navigate these challenges, we chose to take a benchmark weight exposure to the issuer.

We participated in a market call with the company in November 2014 to discuss the delayed financials and met management in January 2015 to understand plans for addressing governance deficiencies. We were encouraged by planned steps to improve corporate governance. Senior management was replaced in February 2015, which led to more transparent hiring practices designed to ensure professional and ethical qualifications of candidates, improved internal financial controls, as well as clearer procurement protocols.

We participated in further market calls with senior management and monitored the implementation of fundamental governance enhancements. As the company regained market access, we met again with management in May 2015 and were able to opportunistically take advantage of weak bond prices and increase our position.

Even with the improved governance structures, political risks remain, but management has stayed committed to reducing debt and focusing on cost and capital discipline, as well as improving transparency by making its fuel pricing policy more market-driven and introducing private partners to prevent a policy rollback by future administrations. Our consistent engagement with management over the years allowed us to take a more informed view on the company's governance standards and their impact on fundamental performance.

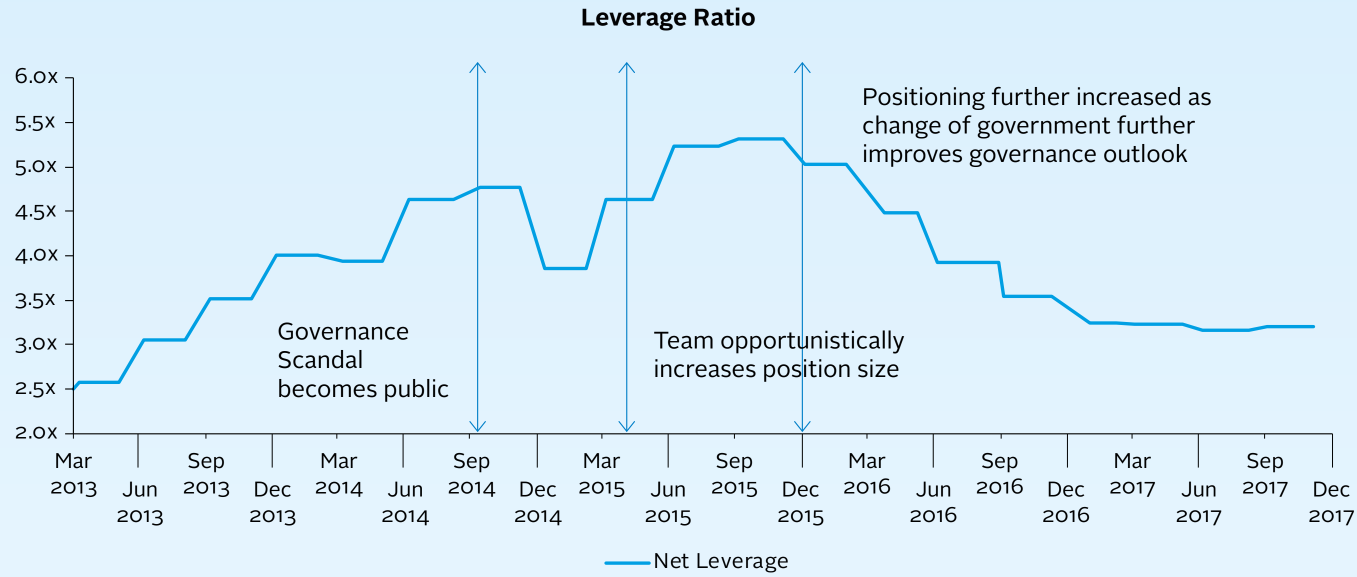
Figure 41: S&P Global history of the rating of the quasi-sovereign company issuer and of its operating country. Source: S&P Global Ratings



MARKET IMPLICATIONS

Leverage grew sharply through 2013 and 2014 due to sovereign-influenced management decisions. Improved governance was a key factor in driving better credit metrics in mid-2015 and beyond and our engagement allowed us to opportunistically increase positioning ahead of a long-term improvement trend (see Figures 41-42).

Figure 42: Improved governance was a key factor in driving better credit metrics after mid-2015. Source: Company Reports



KEY TAKEAWAYS

Because sovereign and corporate ESG factors can interact when analysing credit quality in emerging markets fixed income, engagement can bring additional insight to avoid scandal and potentially even take advantage of the mispricing of the associated risk. These sometimes obscure risks could mean suppliers/downstream players unknowingly have exposure and markets may overreact or belatedly recognise ESG issues, which can create opportunities for engaged investors.

COMPANY INFORMATION

Neuberger Berman, founded in 1939, is a private, independent, employee-owned investment manager. The firm manages a range of strategies—including equity, fixed income, quantitative and multi-asset class, private equity and hedge funds—on behalf of institutions, advisors and individual investors globally, with offices in 20 countries and a team of more than 1,900 professionals. Tenured, stable and long-term in focus, the firm fosters an investment culture of fundamental research and independent thinking. Neuberger Berman believes that material ESG characteristics are an important driver of long-term investment returns from both an opportunity and a risk mitigation perspective. The EM debt team operates from four offices around the globe, which provides them with local in-depth knowledge, contacts and research. Their proprietary research is a crucial element of the investment process. For more information about Neuberger Berman's approach to ESG Investing, please visit www.nb.com/esg.

Net Leverage is defined as how much capital comes in the form of debt (loans), or assesses the ability of a company to meet its financial obligations.

CREDIT RISK CASE STUDY: COCA COLA AMATIL

CONTRIBUTOR	**George Bishay, Portfolio Manager, Pendal Group Limited (formerly BT Investment Management)**
MARKET PARTICIPANT TYPE	**Asset manager**
TOTAL AUM	**US$76.2 billion (as of 31/03/2018)**
FIXED INCOME AUM	**US$13.9 billion (as of 31/03/2018)**
OPERATING COUNTRY:	**Australia**
CASE STUDY FOCUS:	**Example of how S factors affect credit risk assessment**

BACKGROUND TO THE INVESTMENT CASE

Coca Cola Amatil (CCL) is one of Asia-Pacific's largest bottlers and distributors of alcoholic and non-alcoholic beverages. The majority of its products are non-alcoholic and high in sugar. For many years, Pendal Group Limited (Pendal) has held concerns regarding headwinds from structural shifts in consumer demand for healthier options and regulatory risks relating to sugar consumption and their associated impacts on corporate profitability. Pendal has held an underweight position in CCL across its Australian fixed income funds for a number of years, given these concerns.

ESG FACTORS WHICH DROVE THE INVESTMENT DECISION

Pendal's position on the company reflects its view that the social risks around high sugar and its links to diabetes and obesity have not been priced in to the issuer's credit spread and hence Pendal expected CCL's credit spreads to underperform over time. There are also regulatory risks surrounding potential imposition of sugar taxes in key markets. From a financial perspective, CCL's credit spreads have been tight and, in Pendal's view, have not factored in social risks relative to similarly rated issuers.

Pendal's credit analysis process incorporates fundamental issuer analysis and proprietary quantitative modelling to assess investment opportunities. In particular, the credit selection framework focuses on four categories:

1. Business profile (such as competitive position and quality of management);
2. Financial profile (such as cash flow metrics and debt maturity schedules);
3. Risk factors (including regulation and funding sources); and
4. Valuation factors (such as relative value, technical and covenants strength).

ESG factors are typically captured in the business profile and risk factors categories.

Pendal's credit selection framework is based on an integrated credit research approach that includes considering its equity team's research as well as internal and external ESG research. Pendal's issuer research is significantly enhanced through collaboration with its equity teams to obtain insights from their investment analysis and direct company engagements, as well as discussions with Pendal's head of responsible investments regarding ESG issues that are deemed material to the issuer being reviewed. This broadened research approach promotes a more dynamic process with greater awareness of market conditions.

Another avenue through which ESG factors are incorporated is through explicit sustainability (best of sector) and ethical screens that are applied across Pendal's dedicated sustainability fixed income funds. For these strategies, each credit issuer is rated on a comprehensive set of ESG categories. Issuers with ESG scores that do not meet the quality threshold are excluded from the fund's investable universe. In this case, CCL's poor ESG rating excluded the issuer from the investable universe of Pendal's dedicated sustainability strategies even before the bottom-up credit selection process outlined above was applied.

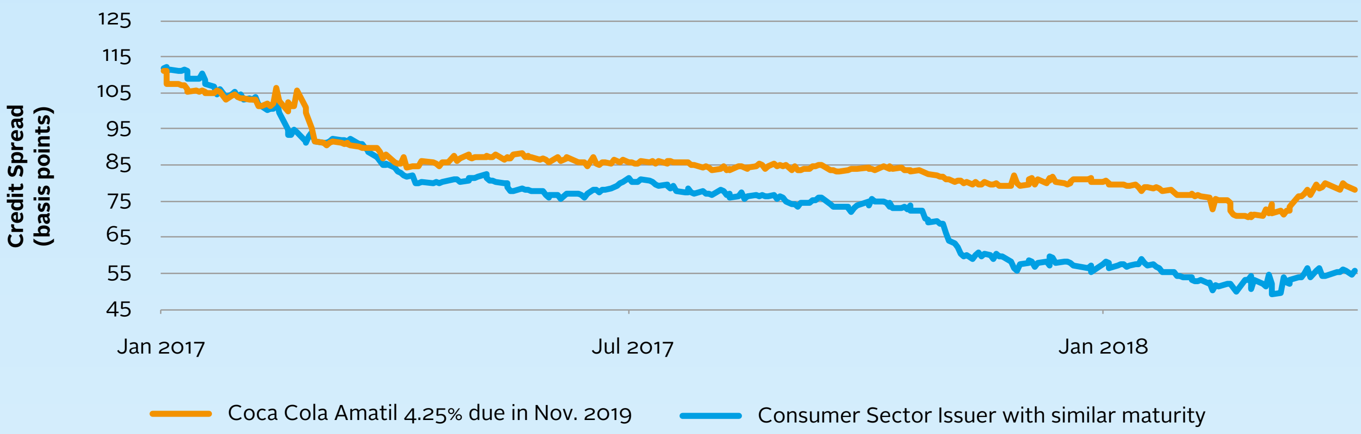
Both the credit selection process (applied across all of Pendal's income and fixed interest funds) and the dedicated sustainability screening process incorporate internal and external sources of ESG information. The third-party ESG data providers conduct in-depth analysis of issuers' (CCL in this example) non-financial characteristics and risks using their independent ESG research.

MARKET IMPLICATIONS

As can be seen from the chart below, CCL credit spreads underperformed against similar consumer sector peers in 2017 and into 2018 as social trends changed and competition intensified (see Figure 43).

In April 2017, the soft drink bottler issued a profit warning based on volume and price pressures as its core high-sugar products have struggled with dwindling demand. Pendal's investment case was further reinforced in March 2018 after CCL was downgraded from BBB+ to BBB by Fitch, reflecting continued deterioration in the performance of the company's Australian business due to structural challenges (falling demand for carbonated soft drinks) and increased competition in still beverages. CCL's credit spreads have continued to underperform since this latest credit rating downgrade.

Figure 43: Coca Cola Amatil bond underperforming consumer sector peers. Source: Bloomberg



KEY TAKEAWAYS

Pendal's bearish view of CCL and the issuer's ongoing underperformance reinforced its own core investment philosophy that a company's approach to managing ESG issues can provide valuable insight into its exposure to negative incidents and that value can be added through incorporating ESG factors into the credit selection process. In particular, the above case study is an example of how ESG considerations can be a source of risk mitigation in fixed income investing. Material ESG risks should be factored into credit valuations, otherwise investors can be exposed to negative events (such as a credit rating downgrade) and their investments could subsequently underperform the market.

COMPANY INFORMATION

Pendal Group (formerly BT Investment Management) is a global asset manager listed in Australia (ASX: PDL) and manages approximately A$99 billion (as at 31 March 2018) across equities, fixed interest and alternative strategies. Responsible investing is part of the manager's heritage, with its first ESG-orientated strategy launched in 1984[30]. Pendal Group manages approximately A$2 billion in dedicated ethical and sustainable investment strategies across multiple asset classes within a range of comingled and segregated accounts, tailored to meet the needs of investors.

30 The BT Charitable Fund (now Pendal Sustainable Balanced Fund) was launched in 1984 when Pendal Group Limited was part of the BT Financial Group Pty Ltd.

APPENDIX 3

FORUM HOSTS AND PARTICIPANTS

Date	Location	Host	Number of attendees	Participating CRAs
25 September 2017	Berlin (Germany)	The PRI*	Panel session	Moody's Investors Service
27 October 2017	The Hague (Netherlands)	Aegon AM	23	Moody's Investors Service
				S&P Global Ratings
2 November 2017	Toronto (Canada)	University of Toronto AM	28	DBRS*
				Moody's Investors Service
				S&P Global Ratings
3 November 2017	Montreal (Canada)	PSP Investments	26	DBRS*
				Moody's Investors Service
				S&P Global Ratings
10 November 2017	New York (US)	Neuberger Berman	28	Moody's Investors Service
				S&P Global Ratings
22 November 2017	London (UK)	Insight Investment, BNY Mellon	36	Beyond Ratings**
				Fitch Ratings*
				Moody's Investors Service
				Scope Ratings
				S&P Global Ratings
5 December 2017	Stockholm (Sweden)	Öhman	18	Moody's Investors Service
				S&P Global Ratings
25 January 2018	Paris (France)	AXA Group	48	Beyond Ratings**
				Moody's Investors Service
				Scope Ratings
				S&P Global Ratings
26 January 2018	Frankfurt (Germany)	Deutsche Börse	20	Dagong Europe Credit Ratings
				Moody's Investors Service
				Rating Agentur Expert RA
				Scope Ratings
				S&P Global Ratings
29 January 2018	San Francisco (US)	Wells Fargo*	Panel session	Moody's Investors Service
				S&P Global Ratings
26 February 2018	Sydney	Financial Services Council	29	Moody's Investors Service
				S&P Global Ratings

*DBRS and Fitch Ratings are not signatories to the ESG in Credit Ratings Statement but the PRI invited them to the events as a gesture of goodwill.

**Beyond Ratings is not a registered CRA yet but is a signatory of the ESG in Credit Ratings Statement.

LIST OF PARTICIPATING INSTITUTIONAL INVESTORS[31]

ASSET MANAGERS

- Aberdeen Standard
- ABN AMRO Bank N.V
- Achmea IM
- Actiam
- Addenda Capital Inc.
- AEGON AM
- AGF Investments Inc.
- AlphaFixe Capital
- AMP Capital Investors
- Amundi AM
- ANZ Global Wealth
- APG AM US Inc
- Ashmore Group plc
- Aviva Investors
- Baillie Gifford
- Bank of China IM
- Barings LLC
- BayernInvest K.mbH
- Beutel, Goodman & Company
- BlackRock
- BlueBay AM
- BNP Paribas AM
- Brandywine Global IM LLC
- Brown Advisory
- Canso Funds
- Christian Brothers Inv. Services, Inc.
- CIBC AM, Inc.
- Colchester Global Investors Ltd
- Colonial First State Global AM
- Commonfund
- Community Capital Management, Inc.
- Conning
- CoPower
- Cordiant Capital
- Danske Bank
- Deka Investment GmbH
- Desjardins
- Deutsche AM
- Ecofi Investissements
- Edmond De Rothschild AM
- Fidelity Investments
- Fiera Capital Corporation
- Global Evolution
- Groupama AM
- Hermes IM
- HSBC Global AM (France)
- HSBC Global AM (France)
- Insight Investment
- Investec AM
- J.P. Morgan AM
- Janus Henderson Investors
- Jarislowsky, Fraser Limited
- Jupiter AM
- Kempen Capital Management NV
- La Banque Postale AM
- La Française AM
- Lazard AM
- Legal & General Investment Management
- Macquarie Investment Management
- Man Group - GLG Partners
- Manulife AM
- MFS Investment Management
- MN
- Montrusco Bolton Investments, Inc.
- Natixis AM
- Neuberger Berman Group LLC
- NN Investment Partners
- Nord IX AG
- Nordea Bank AB
- Öhman
- Pendal (former BTIM)
- Pictet AM
- PIMCO
- Resscapital AB
- Richmond Capital Management
- Robeco
- Rockefeller & Co.
- Sanso Investment Solutions
- SEB AB
- Shell AM Co.
- Standish Mellon AM
- State Street Global Advisors
- Stone Harbor Investment Partners LP
- Swedbank Robur
- Sycomore AM
- TD AM
- Tikehau Capital Advisors
- Trusteam Finance
- Union AM Holding AG
- 1919 Investment Counsel

ASSET OWNERS

- AMF
- Axa Group
- Caisse de dépôt et placement du Québec
- CDC - Caisse des dépôts et consignations
- CBUS Superannuation Fund
- CNP Assurances
- CN Investments
- ERAFP
- First State Superannuation Scheme
- First Swedish National Pension Fund (AP1)
- FMO
- Healthcare of Ontario Pension Plan
- Hesta Super Fund
- Humanis
- IFC
- KFW Bankengruppe
- Landesbank Baden-Wuerttemberg
- Länsförsäkringar Fondförvaltning AB
- Local Government Superannuation Scheme
- MEAG Munich Ergo AM
- Natixis Assurances
- NSW Treasury Corporation
- NYC Office of the Comptroller
- OMERS
- Ontario Teacher's Pension Plan
- OPtrust
- Pensioenfonds PGB
- PSP Investments
- QBE Insurance Group Limited
- SCOR
- University of Montreal
- UTAM
- Victorian Funds Management Corporation

31 In addition, the following organisations attended selected roundtables: Aequo, Asic, Deutsche Bank, Institut Louis Bachelier, Jana, Normandin-Beaudry, RP Investment Advisors, Vigeo Eiris, Volkswagen.

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The Principles for Responsible Investment (PRI)

The PRI works with its international network of signatories to put the six Principles for Responsible Investment into practice. Its goals are to understand the investment implications of environmental, social and governance (ESG) issues and to support signatories in integrating these issues into investment and ownership decisions. The PRI acts in the long-term interests of its signatories, of the financial markets and economies in which they operate and ultimately of the environment and society as a whole.

The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice. The Principles were developed by investors, for investors. In implementing them, signatories contribute to developing a more sustainable global financial system.

More information: www.unpri.org

PRI Principles for Responsible Investment

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

UNEP FINANCE INITIATIVE

United Nations Global Compact

The United Nations Global Compact is a call to companies everywhere to align their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption, and to take action in support of UN goals and issues embodied in the Sustainable Development Goals. The UN Global Compact is a leadership platform for the development, implementation and disclosure of responsible corporate practices. Launched in 2000, it is the largest corporate sustainability initiative in the world, with more than 8,800 companies and 4,000 non-business signatories based in over 160 countries, and more than 80 Local Networks.

More information: www.unglobalcompact.org

United Nations Global Compact