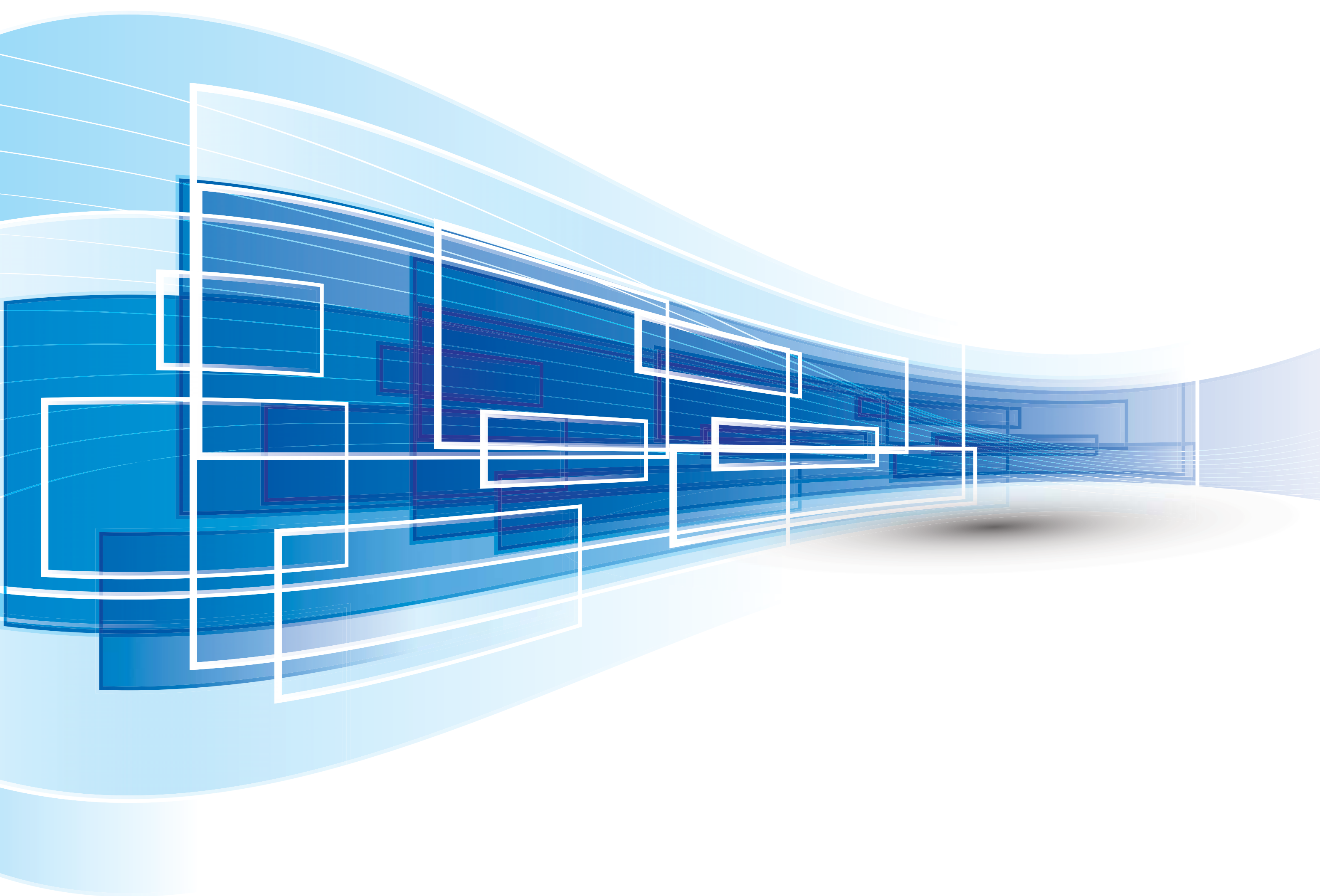
PRI Principles for Responsible Investment



SOVEREIGN BONDS:

SPOTLIGHT ON ESG RISKS

2013

An investor initiative in partnership with

UNEP Finance Initiative
Changing finance, financing change

United Nations Global Compact

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

This report was written by John Kohut and Archie Beeching of the PRI Initiative. John Kohut edited. Ebba Schmidt from the Pension Protection Fund chairs the PRI's Fixed Income Work Stream Steering Committee. Florian Sommer from Union Investment chairs the PRI's Sovereign Fixed Income Working Group. The list of the PRI's Sovereign Fixed Income Working Group participants appears in the Appendix.

Copyright 2013

PRI DISCLAIMER

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

CONTENTS

Executive summary 4

Introduction 5

1. The Stakes 7

2.1. The Euro Crisis and Governance Failings 8

2.2. Social Factors 11

2.3. Environmental Factors 13

3. ESG Analysis and Materiality 14

4. The Role of Credit Ratings Agencies 16

5. A Question of Data 17

6. Key Findings 18

EXECUTIVE SUMMARY

Sovereign bonds issued by developed countries had long been considered a safe haven for institutional investors' assets. The euro crisis has reminded us that the debt of the highest-rated countries can be volatile. The PRI's Sovereign Fixed Income Working Group set out to explore the use of environmental, social and governance analysis as a potential risk-reducing, return-enhancing tool when added to the traditional mix of financial and economic data and political risk. The results of this exercise are presented here.

Section 1 looks at what's at stake: the sheer size of the sovereign bond market and the stabilising role it has played in the portfolios of pension funds and other institutional investors. Though it is currently applied to only a small percentage of total assets under management, the use of ESG analysis is likely to grow. Institutional investors, stung by market volatility during the euro crisis or wary of different risks and opportunities as they increased allocations to emerging markets, are increasingly demanding the application of ESG analysis to sovereign bonds as a criteria for appointing asset managers.

Academic and investor research highlighted in Section 2 shows correlations between ESG factors and credit risks, for example, corruption and sovereign bonds performance are clearly correlated. Moving to social factors, we see that a highly educated, IT-literate society paired with a repressive political system can increase the risk of political regime change. Egypt during the Arab Spring movement is a case in point. By looking at social and political factors, investors can build up a picture of a country, and better gauge the risks of investment. Finally this section asks why the market is failing to factor in major environmental risks, given mounting evidence of their importance.

The research and experience of working group members with regard to materiality, summarised in Section 3, indicates that ESG factors can be material to both creditworthiness and investment performance. Given these compelling results, the challenge to others is to act on the information that is increasingly available.

One of the most commonly debated items on the sovereign bonds agenda is the role of the credit rating agencies. Section 4 highlights what many working group members see as failings in the approach of these companies, and the opportunity to get them to incorporate ESG analysis. In discussions and interviews, the working group and rating agencies have both expressed the need for ESG data presented in a format they can apply. Service providers are rising to the challenge of providing reliable quantitative and qualitative information, as we discuss in Section 5.

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

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

INTRODUCTION

Not long ago sovereign debt was the one asset class that pension funds, trusts, university endowments, insurance companies, charities and other institutions could count on as a safe and predictable source of income, especially if issued by a country with an investment-grade credit rating. That changed three years ago, when Greece rattled global markets by revising its budget deficit to a figure four times over the euro-region limit of three percent (the European Union's statistics agency later put it at more than five times), fuelling speculation the country would run out of money. This drove borrowing costs so high that Greece did declare what amounted to a default. Amid the crisis of confidence, Portugal and Ireland had to ask for financial bailouts. Spain and Italy looked as if they might follow suit. So much for the image of bonds as boring but reliable.

"The sovereign credit crisis, recent developments in the euro-zone and other developed and emerging markets have contributed to a shift in thinking about the materiality of responsible investment in credit investing," says Angela Homsi, a London-based director at Generation Investment Management LLP. "Risk-free sovereign bonds are no longer considered something that exists."

Caught in the midst of all this, investors couldn't but help wonder: How did so many financial analysts, with so much information and technology at their disposal, fail to see this coming, and what can be done to avoid such risks next time?

It was to address such concerns that the Principles for Responsible Investment (PRI) Initiative set up a fixed income work stream in 2011. [1] The idea was to explore ways of applying to fixed income an analytic approach that lies at the core of the PRI's mission: to get investors to consider environmental, social and governance (ESG) factors in deciding where to put their money. While ESG analysis has been applied increasingly to equities, few have put it to the test in fixed income.

The euro crisis added impetus to the mission and the PRI offered a ready-made forum. With financial institutions being pilloried for what critics called excessive risk-taking leading to the global financial crisis of 2008-09, some investors see an opportunity to help repair reputational damage in the financial sector by showing commitment to understanding the factors that contributed to the crisis and acting as better stewards of the assets in their portfolios.

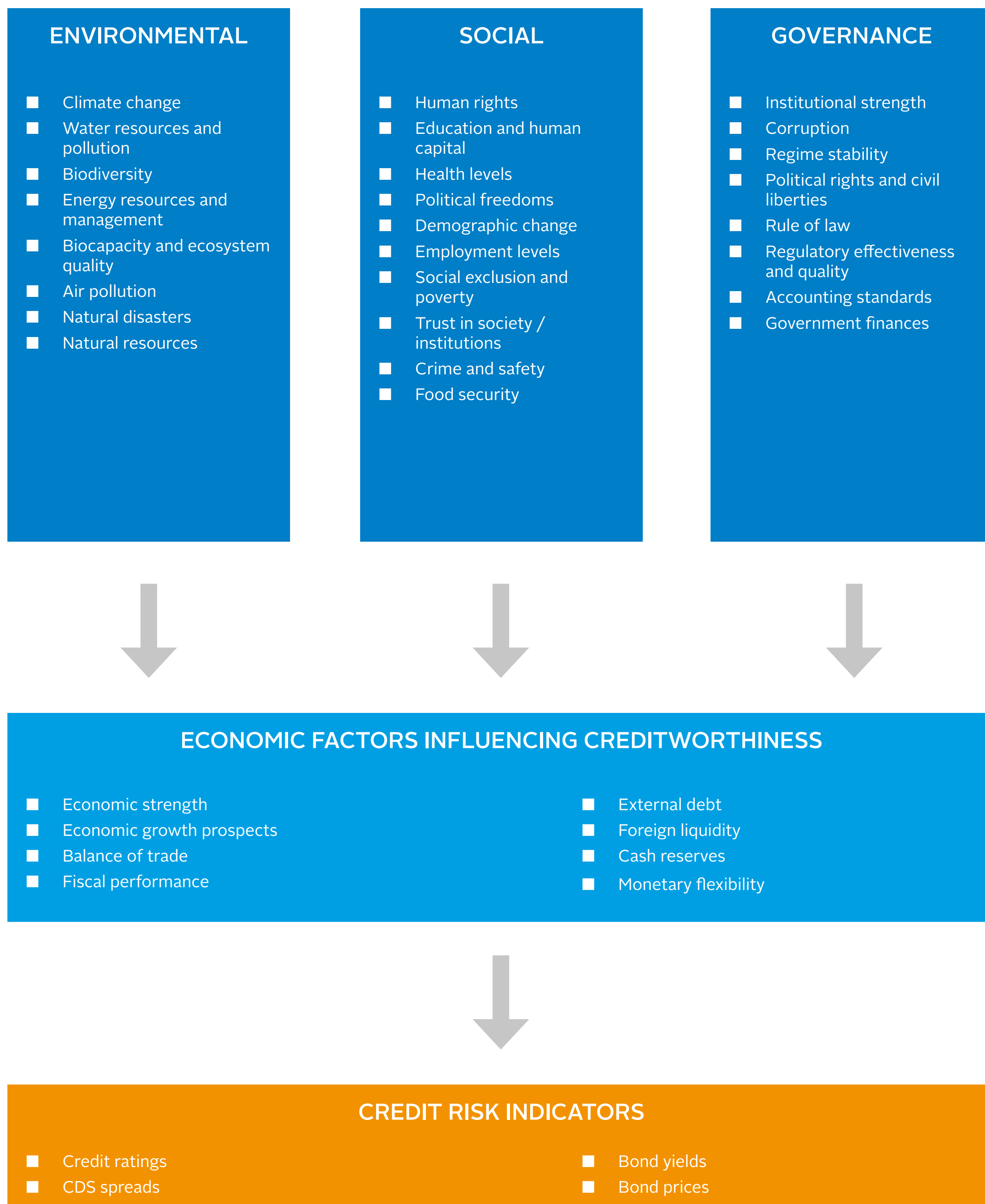
This is the first time a group of investors has explored the links between ESG factors, sovereign creditworthiness and investment performance. This connection has been missed in more traditional investment approaches, and there are few pieces of research on this topic.

This paper is therefore largely based on discussions and presentations at meetings of the PRI Sovereign Fixed Income Working Group, which includes 33 of the PRI's 1,200 signatory companies, [2] along with interviews of the members. As a starting point, the working group created a conceptual framework (Figure 1) to clarify the scope of its work. The framework lists some of the factors considered important by the group members, who then sought to explore whether these issues might be material to the credit factors typically analysed by investors and credit rating agencies, such as economic strength and growth and fiscal performance. In Section 2 of this paper we explore some key examples including the links between corruption, political freedoms, biocapacity and economic growth. Section 3 looks at how measures of different ESG factors might correlate with measures such as bond yields, credit ratings and, ultimately, investment performance, shown in the final stage of Figure 1.

1 A work stream is a PRI Secretariat-led programme of activity on a specific asset class or themed investment area.

2 See Appendix for the list of working group members. Geographic representation is spread from the US to Australia but the group consists of primarily European organisations.

Figure 1. SFIWG framework for exploring the links between ESG factors and sovereign fixed income investment performance.
Source: PRI Sovereign Fixed Income Working Group



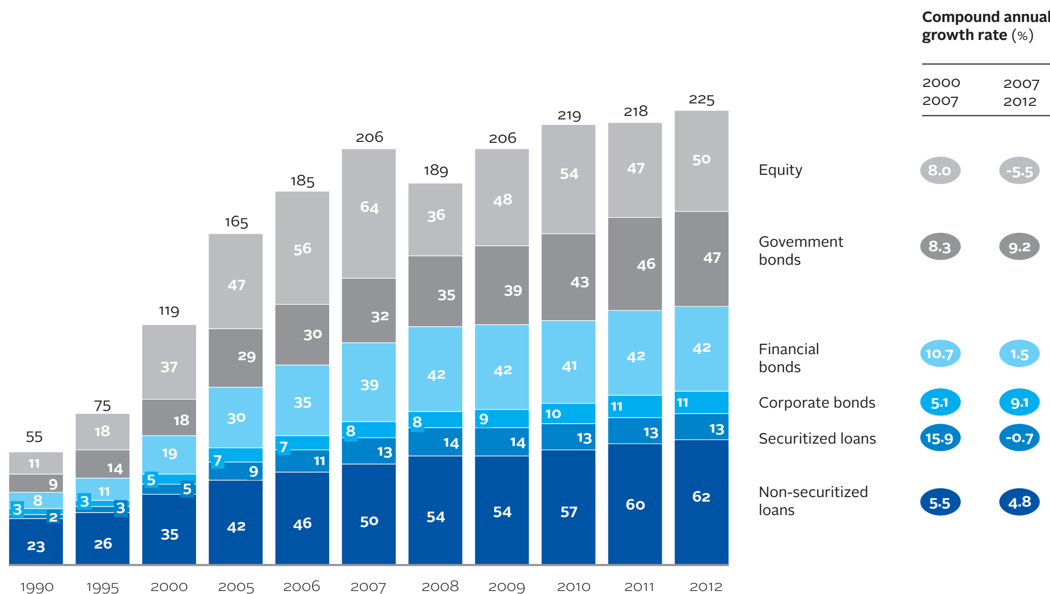
1. THE STAKES

Summary: Sovereign bonds account for US$ 47 trillion of global financial stock and provide what is meant to be a reliable source of returns for institutional investors. Some pension funds are putting pressure on asset managers to adopt ESG analysis as part of an attempt to reduce sovereign credit risks.

One of the main reasons for applying a more responsible approach to sovereign debt is the sheer size of the market. From 2007 to 2012, global government debt outstanding increased by 9.2 percent, equivalent to 21 percent of global financial assets of US$225 trillion [3] (Figure 2).

For pension funds and other asset owners, bonds take on an importance greater than those figures suggest because they have provided a bedrock of security in the past. The average pension fund has 34 percent of its portfolio in fixed income, according to a 2013 study by global professional services firm Towers Watson & Co. [4] Some asset owners with less risk appetite are even more dependent on bonds. At the London-based Pension Protection Fund, set up by the UK government in 2004 to provide compensation for people whose company pension schemes have collapsed, fixed income and cash account for 70 percent of total assets at £14 billion (US$21.5 billion). For asset owners, ESG analysis is a potential extra guard against losses.

Figure 2. Growth of global financial stock 1990 to 2012 based on a sample of 183 countries. Source: Mckinsey Global Institute



"We adopted a belief, aligned with the PRI Initiative, that ESG factors are linked to financial performance in the long term," said Ebba Schmidt, a PPF investment manager and chair of the fixed income work stream. "We ask: What are the risks in your portfolios and what are you doing about it? The PPF wants fund managers to show that they have a process, that they are using ESG information and that they report on their findings."

3 McKinsey Global Institute, *Financial globalization: Retreat or reset? - Global Capital Markets 2013*. March 2013"

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

2.1. THE EURO CRISIS AND GOVERNANCE FAILINGS

SUMMARY: Corruption, a key indicator of governance failings, proved to be one of the most important factors of the euro-zone debt crisis. Tax avoidance and false financial statements on a massive scale undermine nations' credit strength and mislead investors. As investors seek growth in emerging markets, corruption-related risks are increasing. Academic and investor research show that corruption and sovereign debt performance are clearly correlated.

How might institutional investors such those in the working group have predicted that Greece would become insolvent, or at least, have had a better idea of the real risks, and adjusted for them by demanding higher yields, or buying lesser amounts, or a combination of the two?

Any attempt to outline the origins of the euro crisis almost invariably touches on the issue of corruption and the role it played in Greece's insolvency. While it was no secret that tax evasion was fairly widespread, markets were rattled by the government's announcement in early 2010 of revisions to its 2009 budget deficit. Instead of a gap between income and spending equivalent to 5 percent of economic output, as originally reported, Greece raised its estimate twice, the second time to 13.6 percent. Eurostat, the organisation responsible for providing statistical information to institutions of the European Union, later calculated the deficit at 15.4 percent of gross domestic product.

Tax evasion by self-employed professionals was worth €28 billion (US$37 billion), or 31 percent, of the Greek budget deficit for 2009, according to a study led by Nikolaos Artavanis from the University of Chicago. [5]

The big three credit rating companies, Moody's Investors Service, Inc., Standard & Poor's Financial Services LLC and Fitch Ratings Inc., do consider corruption in gauging political risk. Corruption has played an increasingly important role as rating agencies have learnt from past events which highlighted the links between corruption and sovereign collapses. Among their references are the World Bank Control of Corruption Index, which relies on an aggregation of various indicators that measure the extent to which public power is exercised for private gain, and the "capture" of the state by elites and private interests.

The second gauge is Transparency International's Corruption Perception Index, a measure of perceived levels of public sector corruption in 176 countries produced annually since 1995. Nevertheless, the working group felt that Moody's, S&P and Fitch, which together control about 95 percent of the global market for credit ratings, underestimated or overlooked the importance of corruption. Under ESG analysis, corruption would probably be given much more attention, analysed as a separate category rather than being subsumed under political risk, and assessed with a variety of data and qualitative information.

"Corruption levels provide additional risk insight. That is one lesson from the European Debt Crisis." says Florian Sommer, a senior strategist at the Frankfurt-based fund manager Union Investment, with €200 billion (US$264 billion) under management.

Union Investment cited a World Bank report that estimated the cost of corruption at as much as US$1 trillion a year globally. [6] Public officials in developing and transition economies take in bribes amounting to US$20–40 billion per year. [7]

The effects of corruption on economic activity and growth can be significant, making a strong case for giving it a higher weight in analysis:

- If India could reduce its corruption to Singapore's level, the effect on attracting foreign investment would be the same as reducing its marginal corporate tax rate by 22 percent, according to Shang-Jin Wei, Professor of Finance and Economics at Colombia Business School. [8]
- Corruption also tends to skew public expenditure away from health and education, according to Paulo Mauro, Assistant Director at the International Monetary Fund. [9] It is presumed that this is because these sectors are more difficult to manipulate for bribery purposes than other projects. [10]

5 Artavanis, N T., Morse, A and Tsoutsoura, M. 2012, 'Tax Evasion Across Industries: Soft Credit Evidence from Greece'. Chicago Booth Research Paper No. 12-25; Fama-Miller Working Paper.

6 The World Bank. 'The Costs of Corruption', April 2004. Available online: http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20190187~menuPK:34457~pagePK:34370~piPK:34424~theSitePK:4607,00.html

7 The World Bank Institute. 'Asset Recovery Handbook: A Guide for Practitioners'. 2011. Available online https://publications.worldbank.org/index.php?main_page=product_info&products_id=24015

8 Wei, S-J. 1999, 'Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?', Harvard University and National Bureau of Economic Research.

9 Mauro, P. 1997, 'The Effect of Corruption on Growth, Investment and Government Expenditure: A Cross-Country Analysis', in *Corruption and the Global Economy*. Institute of International Economics.

10 Wei, S-J, 1999. 'Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?' Harvard University and National Bureau of Economic Research.

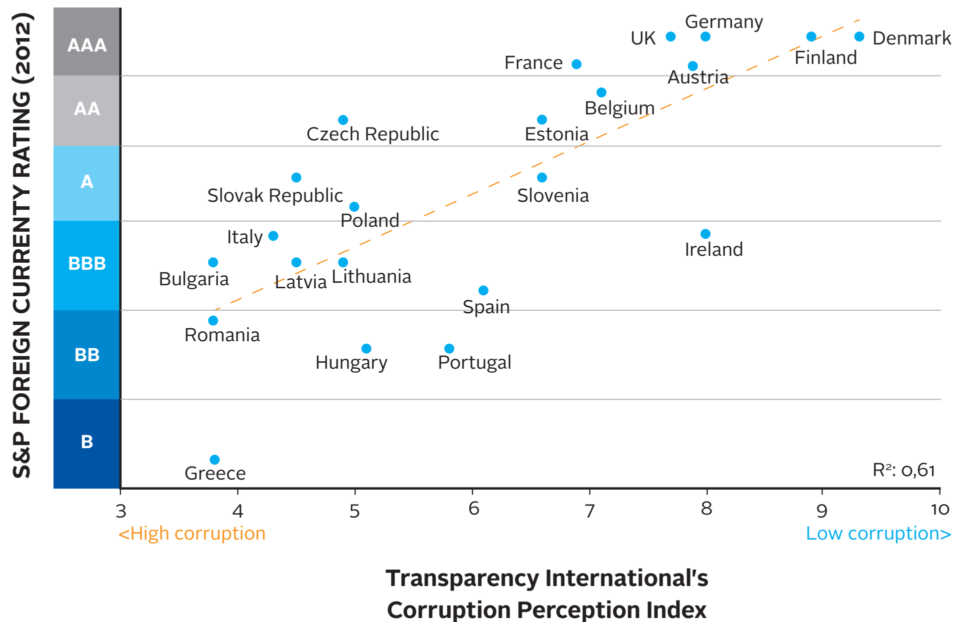
- Corruption tends to reduce tax revenue, according to a study by Daniel Kaufmann, senior fellow of the Brookings Institute, and Wei. [11]
- The shadow economies of Spain, Portugal, Italy and Greece range from 19.5 percent to 25 percent of gross domestic product, according to Friedrich Schneider of Johannes Kepler University on behalf of AT Kearney, a management consultancy. [12] Transparency International rates Greece and Italy in the top five most corrupt countries in the Organisation of Economic Cooperation and Development.

"The evidence from our research convinced us to give corruption a heavier weighting in our in-house sovereign credit rating system, introduced in 2011," says Sommer. There are other ways to evaluate the level and impact of corruption. Professor Bo Rothstein and Professor Sören Holmberg from the Quality of Governance department, University of Gothenburg, using correlation analysis, [13] found that the lower the GDP per capita, the lower the level of corruption control. They also found that the lower the level of corruption, the higher the foreign currency credit rating.

In their own analysis, Union Investment found a correlation between the 2009 CPI of euro-zone countries and their subsequent credit ratings from 2012 (Figure 3). This suggests that corruption measures might give investors more insight into medium- and long-term risks rather than just those in the immediate future.

- Union Investment also found that the countries whose bond yields rose the most during the euro crisis, including Greece, Spain, Portugal and Italy, had experienced the largest increase in their Corruption Perception Index between 2007 and 2012 (Figure 4).
- A decrease of one standard deviation in corruption improves the sovereign credit rating of a country by almost a full rating category (e.g. BBB to A), according to an empirical study led by Craig Depken, Associate Professor with the Department of Economics at the University of Texas at Arlington. [14] This translates into annual savings of roughly $10,100 for every $1 million of debt.

Figure 3. Control of corruption versus foreign credit rating.
Sources: Union Investment, Transparency International CPI, S&P ratings 31/12/2012



11 Kaufmann, D. and Wei, S-J. 1998 'Does 'Grease Payment' Speed Up the Wheels of Commerce?' World Bank and Harvard University.

12 AT Kearney and Schneider. 'The Shadow Economy in Europe', 2011.

13 Rothstein, B. and Holmberg, S. 2012, 'Correlates of corruption', Working paper series 2011:12. The Quality of Government Institute.

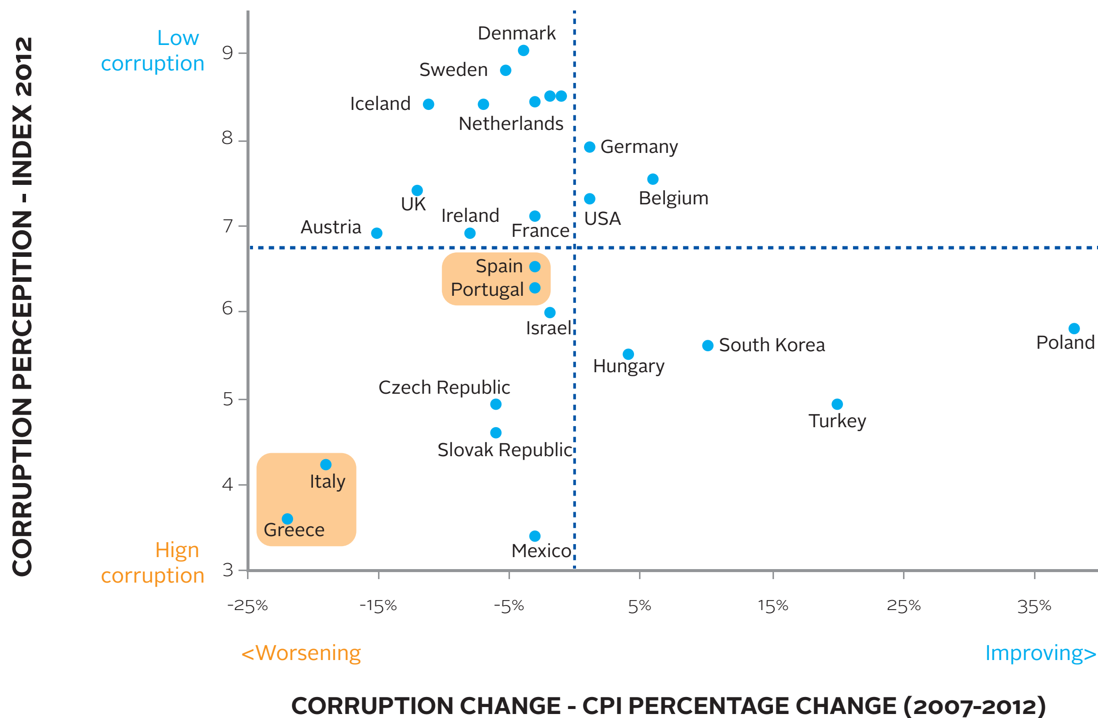
14 Depken, C., LaFountain, C. and Butters, R. 2006, 'Corruption and Creditworthiness: Evidence from Sovereign Credit Ratings,' Working Papers 0601, University of Texas at Arlington, Department of Economics.

- Countries perceived as more corrupt must pay higher yields when issuing bonds, according to a study led by Francisco Ciocchini of the Universidad Catolica Argentina. [15] His study combined data on bonds traded in the global market with survey data on corruption compiled by Transparency International.
- The greater the corruption, the more likely a country will incline towards rescheduling its debt, Friedrich Thießen and Johannes Weigl found in studies on data of the Paris Club, an informal group of creditors who find ways to support debtor countries experiencing repayment difficulties, and Transparency International. [16]

Corruption analysis will become increasingly important as money moves into emerging markets in search of higher growth rates, says Ebba Schmidt of the Pension Protection Fund and chair of Fixed Income Work Stream Steering Committee.

"When I started [at the PPF], I looked at our exposure to high corruption risk countries using the CPI. People weren't interested," Schmidt says. "Now many more managers explicitly assess corruption risk. Data from Transparency International is free, it's out there, the risk is being priced in now".

Figure 4. Corruption levels and trends among OECD countries.
Sources: Union Investment, Transparency International CPI



15 Ciocchini, F. Durbin, E. Ng, D. 2003, 'Does corruption increase emerging market bond spreads?' *Journal of Economics and Business* 55, 2003, 503–528.

16 Thießen, F. and Weigl, W. 2011, 'Der Korruptionsindex als Indikator für die Rückzahlungswahrscheinlichkeit von Staatsschulden.' Technische Universität Chemnitz – Fakultät für Wirtschaftswissenschaften. Working Papers in Economics / Wirtschaftswissenschaftliche Diskussionspapiere.

2.2. SOCIAL FACTORS

Summary: A highly educated, IT-literate society paired with a repressive political system can increase the risk of political regime change, Maplecroft found in correlation studies. Egypt during the Arab Spring movement is a case in point. By looking at social and political factors, investors can build up a picture of a country, and better gauge the risks of investment.

The Sovereign Fixed Income Working Group began meeting in late 2011, a year in which authoritarian rulers were toppled in Tunisia, Egypt and Libya. The events of the Arab Spring added impetus for the group to explore how social factors can ultimately affect investment performance. To understand this relationship better, the group invited Dr Kevin Franklin, a director at ESG research provider Maplecroft, to explain its approach. Maplecroft came up with national social development scores based on indicators including health and educational standards, infrastructure and resource access. Political freedom scores came from information on factors such as labour rights, freedom of speech and of the press.

These scores were then put alongside economic scores (based on International Monetary Fund data) and S&P country credit ratings. Among its findings, Maplecroft noted that economic performance and high levels of absolute GDP tended to support a high credit rating. Several countries with weak ESG ratings also got low credit ratings.

On the basis of empirical research, Maplecroft also found countries tend to have greater unrest when low levels of political freedom combine with a high degree of social development. This was true of Egypt, one of the countries where an autocratic regime was toppled in the Arab Spring rebellions that started in December 2010.

Does that mean every country with limited freedom and fairly advanced social development will face regime change? What about other countries that fall in the same sphere such as Belarus, China, Cuba, Saudi Arabia and Vietnam, shown in the grey area of Figure 5? Are they destined for regime change?

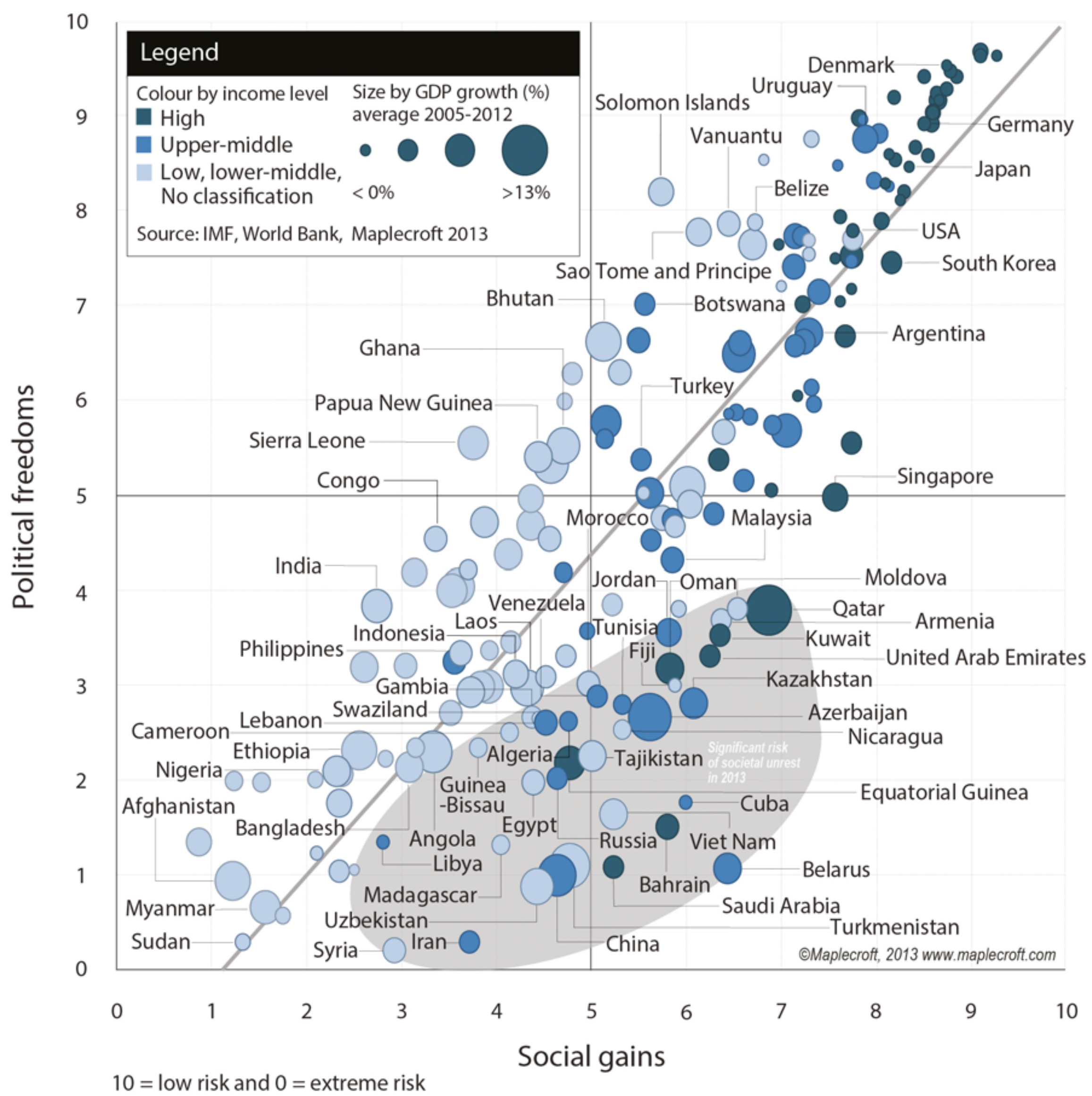
Not necessarily. There may be a host of other factors at play that tip the balance. For example, a regime could leapfrog the tumultuous phase of political protests and police crackdowns by suddenly deciding to introduce democratic elections and grant more freedom to its citizenry. Or a dictator could increase repression, making dissent all but impossible. Finally, a one-party state may introduce economic or political reforms.

For an example of the first, one can point to Burma, where an army junta ruled for decades until suddenly opening up to democratic change. China just after the Tiananmen massacre of 1989 illustrates the second possibility. China and its re-launch of economic reforms in 1992 is an example of the third.

Maplecroft identified other links between social and economic factors:

- A strong legal and regulatory environment, high standards of health and education, respect for labour rights and access to quality infrastructure all contribute to economic growth, which promotes stability.
- Control over corruption and good governance tend to translate into fewer risks of social and political unrest, and this stability in turn provides a fertile ground for economic growth.
- Countries displaying poor ESG indicators are often more prone to shocks from natural, social or economic events, leading to greater credit risk. This leaves growth markets including China, India and Russia at high risk of being downgraded. Conversely, improvement in these ESG factors enhances the outlook for long-term growth, which in turn reduces risk.

Figure 5. Societal gains and political freedoms provide leading insight into political instability.
Source: Maplecroft



2.3. ENVIRONMENTAL FACTORS

Summary: Water scarcity, the loss of biodiversity and climate change undoubtedly pose risks to economic growth. Yet research shows little correlation to date between environmental issues and bond performance. One of the biggest problems is agreeing on which indicators should be used to measure environmental risks in the context of sovereign fixed income.

Environmental factors showed the weakest correlations with sovereign bond performance in studies carried out by AXA Investment Managers (IM), one of France's three largest asset managers with €554 billion (US$732 billion) under management. Its research showed correlations between returns and governance and social ratings, but showed a weaker link to environmental issues, according to Lise Moret, senior quantitative analyst for AXA IM's responsible investment department, which employs a team of 10.

The United Nations Environmental Program Finance Initiative (UNEP FI) partnered with the Global Footprint Network, a think-tank working to promote sustainability, in 2011 to determine whether a country's use of its environmental resources will affect its future creditworthiness. The GFN measures human demand on the natural resources of countries. This is effectively an indicator of how much land and water area a country's population requires to satisfy its needs and is referred to as its Ecological Footprint. This footprint is compared to the rate at which nature can process waste and generate new resources, known as biocapacity, to work out whether that country has a surplus or deficit of ecological resources. [17] The study, entitled Environmental Risk Integration in Sovereign Credit Analysis (E-RISC), showed no correlation between a country's ecological balance and its credit rating. This is remarkable considering that these issues are highly material to a country's economic performance in the long, medium and even short term, according to the study.

Management of increasingly scarce water supplies is becoming more and more important to primary and secondary industries in the US, according to a 54-page report written by S&P analysts in 2012. The report cites reduced income from agricultural outputs and the increasing costs to industries of sourcing water as the main reasons for the materiality of water scarcity to local and national economies. [18]

Investment consultant Mercer, HSBC Global Asset Management Group and the Carbon Tracker Initiative have all led separate studies on the importance of climate change to financial markets. Mercer expects that "the impact on government bonds is likely to be relatively low, as government bonds have a comparably high sensitivity to sources of risk related to macroeconomic conditions rather than climate change factors." [19] Perhaps, as Mercer says, there will be a scenario where the market prices these issues in over a very long time period, resulting in no perceivable shocks.

HSBC AM and the Carbon Tracker Initiative argue that if the world's major economies commit to greenhouse gas output targets defined by the UN Framework Convention on Climate Change (UNFCCC), companies will only be able to burn 20 percent of proven coal, oil and gas reserves. That will mean a significant shift to alternative means of power generation with a greater impact the economies of countries more reliant on carbon. [20]

International NGOs, academics and investors have identified the direct risks posed by climate change on society and the world economy. What has yet to be identified is how these risks will play out for sovereign bond investors.

17 UNEP Finance Initiative and Global Footprint Network. *E-RISC: Environmental Risk Integration in Sovereign Credit Analysis*. 2012. Available online: http://www.unepfi.org/fileadmin/documents/ERISC_Phase_1.pdf

18 Standard & Poor's. *Water: The most valuable liquid asset?* 2012. Available online: http://www.standardandpoors.com/spf/swf/water/data/document.pdf

19 Mercer, *Climate Change Scenarios – Implications for Strategic Asset Allocation*. 2011. Available online: http://www.mercer.com/attachment.dyn?idContent=1407480&filePath=/attachments/English/04028-IC_ClimateChangeAssetAllocationStudy_Report_FNL_lowres.pdf

20 Carbon Tracker Initiative and Grantham Research Institute. *Unburnable Carbon 2013: Wasted Capital and Stranded Assets*. 2013. Available online: http://carbontracker.live.kiln.it/Unburnable-Carbon-2-Web-Version.pdf

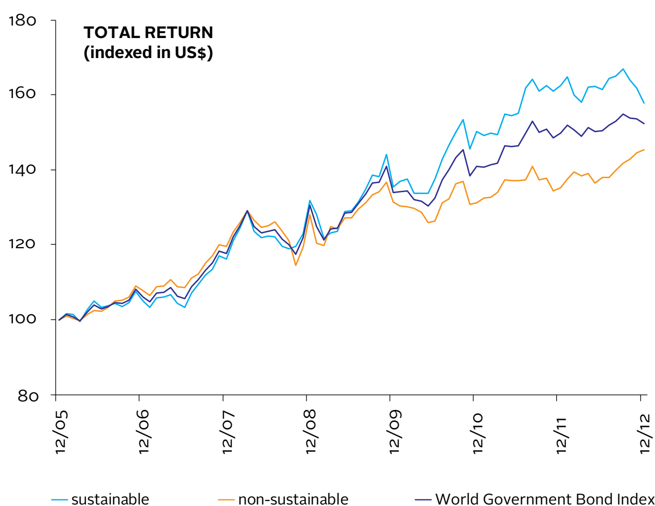
3. ESG ANALYSIS AND MATERIALITY

"Four years ago, people believed ESG analysis didn't move the needle," Schmidt says, "but now they believe it does."

Bank J. Safra Sarasin AG, a Swiss asset manager, uses ESG analysis for a positive screening or best-in-class approach, which is applied to 10 percent of its €70 billion (US$92 billion) funds under management. The fund manager introduced sustainable investment criteria after the Sandoz chemical factory near its head office in Basel caught fire in 1986, poisoning the Rhine River and leading to greater recognition of the economic and moral downsides for investors.

Bank J. Safra Sarasin rates countries based on sustainability criteria such as the ratio between natural resources availability efficiency in using those resources. A threshold is applied and the "most sustainable" countries then become part of its investable universe, those remaining are then subject to traditional methods of credit analysis.

Figure 6: Market-weighted performance of sovereign bonds from sustainable and non-sustainable industrialised countries.
Source: Sarasin, Datastream.



Bank J. Safra Sarasin found the performance of bonds issued by a more sustainable group of countries outperformed those issued by less sustainable countries (see Figure 6).

Overall, applying sustainability criteria has had a "neutral to slightly positive effect on investment returns compared to a benchmark", according to Balazs Magyar, sustainability analyst at Bank J. Safra Sarasin.

AXA IM compared the total return of bonds issued by countries with high ESG scores (based on CO2 emissions per capita, the UN's Human Development Index and other governance, social and environmental features) against a group with low ESG scores. [21] As shown in Figure 7, bonds issued by the countries with high ESG scores outperformed those with lower scores.

Union Investment compared a portfolio of sovereign euro-zone bonds weighted according to ESG performance and found it performed better against a a euro-zone benchmark of five-year bonds. It also found strong correlations between corruption scores and subsequent credit ratings.

In a study presented to the working group, MSCI showed there was a strong correlation between ESG factors and subsequent rating downgrades. ESG ratings of 78 countries for 2007 were measured against S&P credit ratings from the same year. The differences between ESG and financial performance scores were calculated and compared to credit ratings downgrades between 2007 and 2011. Countries with the largest discrepancies between financial performance and ESG rankings were the most likely to be downgraded in subsequent years.

21 AXA Investment Managers, *Sovereign Debt Investing: ESG Framework and Applications*, 2013. Available online: http://www.axa-im.com/c/document_library/get_file?uuid=%20c635977f-fb53-4f02-afa5-c9c793418f5f&groupId=12504

Figure 7: Returns from portfolios based on the best and worst ESG rated countries.
Sources: AXA IM, JP Morgan, Citigroup, Thomson Reuters

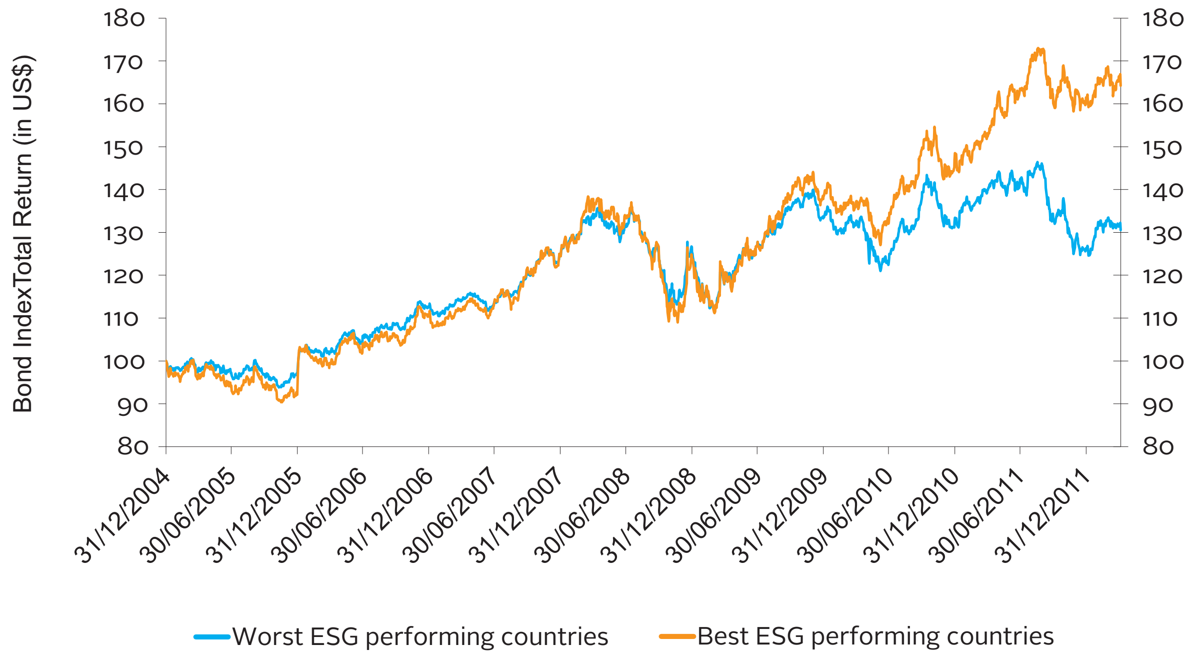
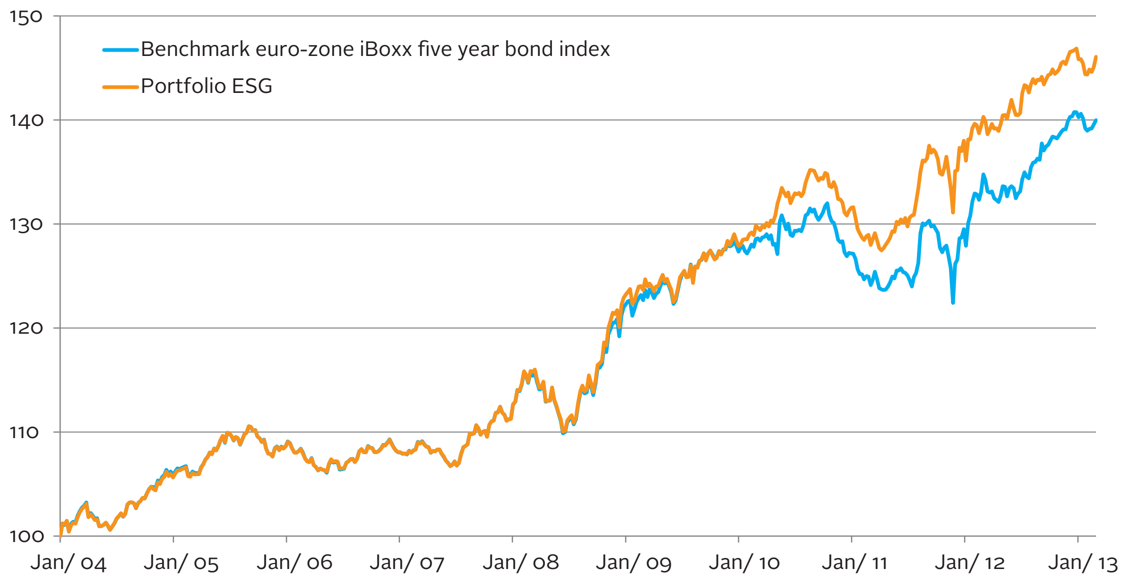


Figure 8: Relative performance of a euro-zone portfolio with weightings according to country ESG rankings against a market benchmark.
Source: Union Investment, Bloomberg



4. THE ROLE OF CREDIT RATINGS AGENCIES

There are a number of important actors in the investment chain with power to influence both individual investment decisions and the market as a whole (Figure 5). Asset owners, asset managers and specialist ESG researchers are all represented in the working group. In its discussions, the working group repeatedly came back to the role of credit ratings companies.

Whatever any individual investor does to determine creditworthiness by using traditional financial and ESG analysis, the market as a whole will continue to be influenced by credit ratings agencies. Members of the working group expressed concern that Moody's, S&P and Fitch, which together control almost the entire credit rating market, failed to see the risks that led to the 2008-09 global credit crunch. Is there any reason to trust their ratings and assessments now?

"They are the powerhouses of the sector," says Magyar. "Analysts can't compete with the level of detail they obtain, they influence public opinion."

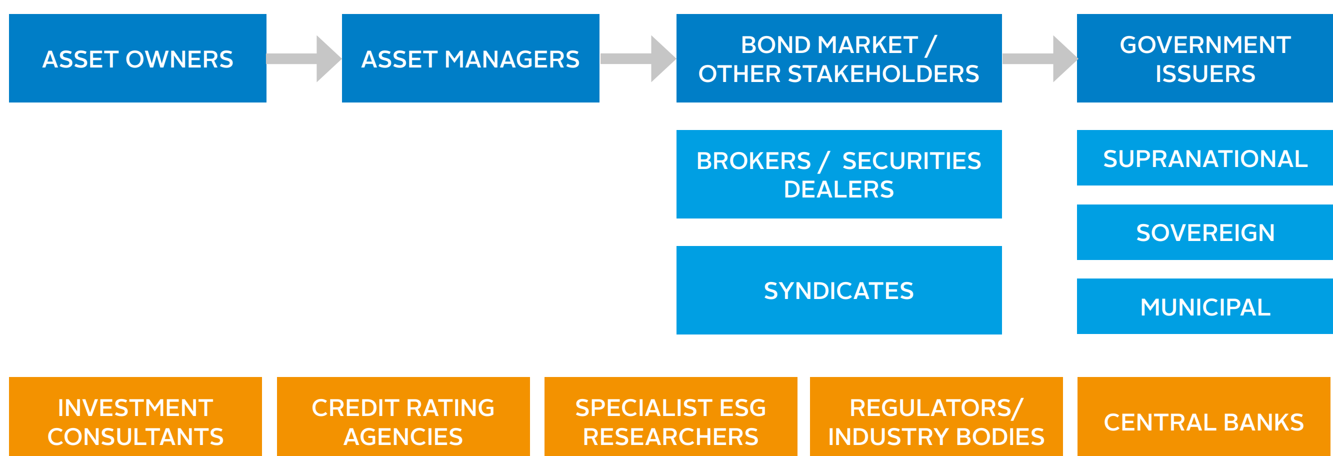
Working group members suggested engaging with the credit rating companies to convince them to incorporate ESG factors into their assessment criteria, even though they are not expecting instant results.

The reply from the credit rating companies suggests they are not about to pour resources into areas that would to some extent mean departing from an approach that has served them for decades.

Moody's, S&P and Fitch say their focus is on a government's ability to manage any types of shock regardless of whether they are environmental or social or governance related. Moody's uses a "conceptual framework" weighing qualitative and quantitative information rather than adopting "a mechanistic approach", the company's website says. "There are no quantitative-based approaches that satisfactorily replace analysts' disciplined judgment on this question." Some members of the working group would prefer to see ESG factors considered in a more systemic way, one which captures risks regardless of whether an individual analyst sees them as important in the short term.

S&P's criteria come under five main headings, which cover institutional health, economic growth and structure, external position, and fiscal and monetary flexibility. The company concedes there is validity in ESG, says Olga Kalinina, global criteria officer for sovereign ratings at S&P. But to incorporate ESG analysis would require more globally comparable data of reliable quality, she says. S&P recently considered its approach to environmental issues and decided to continue to assess their impact on a case by case basis. Moreover, the company already makes use of many of the same resources that ESG analysts use, such as the World Bank's governance indicators, Transparency International's Corruption Perception Index and environmental data from various specialized sources.

Figure 8: Key stakeholders in the fixed income investment chain.
Source: PRI Secretariat



5. A QUESTION OF DATA

ESG analysis can only be as good as the data it relies on, and working group members say more qualitative information needs to be put into quantitative form. One reason has to do with the culture of financial analysts.

"The minute you provide people with something they can put into a spread sheet they're much more comfortable doing something with it," Schmidt says. "Fixed income people need to have that reassurance, they need to have the number."

Among the service providers who are rising to the challenge and opportunity, MSCI Inc., a global provider of investment research, has developed a system of sovereign ESG ratings. The system ranks countries on non-financial parameters ranging from natural resource management and environmental externalities, to human capital development and corruption controls.

Bloomberg, a multinational provider of investment data, collates information on 36 key ESG performance indicators. Environmental indicators include data on carbon intensity, water withdrawal per capita and forest area as a percentage of overall landmass, while social indicators include data on sexual discrimination, public spending on education and life expectancy rates. The information is supplied by organisations including the World Bank, the US Department of Energy and the Heritage Foundation as well as research conducted in-house by Bloomberg's ESG analysts.

Bloomberg says the data can be used to fit any user's approach to responsible investment. For example, pension funds or their clients can create portfolios with exclusions or positive screening requirements, use the data to inform buy or sell decisions, or adjust portfolio weighting. They can also integrate ESG data into a single score and combine it with economic data to get an overall evaluation.

Yet good judgement will still be indispensable no matter how many numbers one can plug into a model, and that means reliable, comprehensive qualitative information is also needed.

"Fixed income analysis is necessarily a quantitative process," says Aled Jones, head of responsible investment at Mercer. "That said, qualitative factors such as political risk are important considerations when assessing credit risk. Analysts need to become more comfortable assessing a broader range of ESG information, much of which is qualitative and beyond their typical time horizons."

Some members of the working group have stated that brokers can support investors by providing research which combines ESG and financial data to produce a single valuation or buy/sell recommendation. This approach is becoming more and more common for equity brokers. In the PRI's Integrated Analysis document published in March 2013 both brokers and investment managers explain how they are using ESG information in the fundamental equity analysis to make more accurate evaluations of listed companies. [22]

22 PRI Initiative. *Integrated Analysis: How investors are addressing environmental, social and governance factors in fundamental equity valuation.* 2013. Available online: http://d2m27378y09r06.cloudfront.net/viewer/?file=wp-content/uploads/Integrated_Analysis_2013.pdf

6. KEY FINDINGS

This paper has outlined the PRI's Sovereign Fixed Income Working Group's study of the materiality of ESG factors to sovereign credit risk and investment performance. The euro crisis has highlighted to investors that sovereign bonds can be highly volatile, despite having previously been considered as one of the safest havens for investment. The number and calibre of the organisations involved in this working group demonstrates that investors are buying in to the following findings and acting on them:

1. ESG ANALYSIS GIVES INVESTORS ADDITIONAL INSIGHT INTO SOVEREIGN CREDIT RISK.

Multiple studies show correlations between ESG factors and credit risk. MSCI says that a large discrepancy between ESG performance and credit ratings is a strong sign of future downgrades while Union Investment showed a strong correlation between corruption scores and subsequent credit ratings.

2. ESG FACTORS HAVE PROVED TO BE MATERIAL TO SOVEREIGN CREDITWORTHINESS AND INVESTMENT PERFORMANCE.

AXA IM found that sovereign debt issued by countries with higher ESG scores outperformed over the Euro crisis period. Bank J. Safra Sarasin says selection based on ESG analysis along with traditional analysis had a "neutral to slightly positive" effect on performance. Given these compelling results, the challenge to others is to act on the information that is increasingly available.

3. INVESTORS WANT CREDIT RATING AGENCIES TO USE ESG ANALYSIS TO INFORM THEIR SOVEREIGN CREDIT RATINGS.

Whatever any individual investors do to determine creditworthiness by using ESG analysis, the market as a whole will continue to be influenced by credit ratings agencies. Some working group members felt it was important to press them to apply ESG analysis in a more systematic way, taking into account both quantitative and qualitative criteria.

Since the work stream began, more and more research linking ESG factors and sovereign debt has come to light. For those seeking further insight, the PRI has assembled a suite of materials for use by signatories and available via the PRI extranet:

- Comprehensive slide deck containing additional case studies designed to help signatories communicate the ideas in this paper to colleagues, clients and other stakeholders.
- Recorded panel discussion presenting case studies which link ESG factors with sovereign credit risk.
- Resources library with links to relevant research from academics and investors.

NEXT STEPS

Given the correlations between ESG factors and investment performance identified by the working group, an important next step is to explore *how* investors can use ESG analysis as an investment tool. Some equity investors are already integrating ESG data into their fundamental analysis of stocks; how can this approach be applied to sovereign bonds? Aside from integration, information on ESG factors can be used to flag key risks, adjust the weighting of different bonds in a portfolio or to help investors select bonds issued by countries with best-in-class ESG performance. ESG analysis can also be used to help investors screen out countries from their investable universe. Just as investors choose not to buy bonds from sanctioned countries, they may include ESG factors as criteria for exclusion or divestment.

It remains to be seen how many investors use ESG analysis in their investment process, what the challenges are and exactly how they implement this in practical terms. The next phase of the PRI work stream is to explore how investors use ESG analysis in their decision making.

PRI SOVEREIGN FIXED INCOME WORKING GROUP MEMBERS

AEGON Asset Management

AllianceBernstein L.P.

Allianz Global Investors

Allianz SE

ASR Nederland N.V.

ATP

AXA Investment Managers

Bank J. Safra Sarasin AG

Bloomberg L.P.

BlueBay Asset Management LLP

Breckinridge Capital Advisors

Danske Bank

Deutsche Bank Advisors

Generation Investment Management LLP

Global Evolution

Hermes Fund Managers Limited

HSBC Global Asset Management

Maplecroft

MN

MSCI

oekom research AG

Pension Protection Fund

PIMCO

Skandinaviska Enskilda Banken (SEB) AB

SNS Asset Management

Stichting Philips Pensioenfonds

Sustainalytics

Trucost

UNEP Finance Initiative

Union Investment

Unipension Fondsmaeglerselskab A/S

University of St. Andrews

Vigeo

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

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

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

United Nations Environment Programme Finance Initiative (UNEP FI)

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

More information: www.unepfi.org

UN Global Compact

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

More information: www.unglobalcompact.org