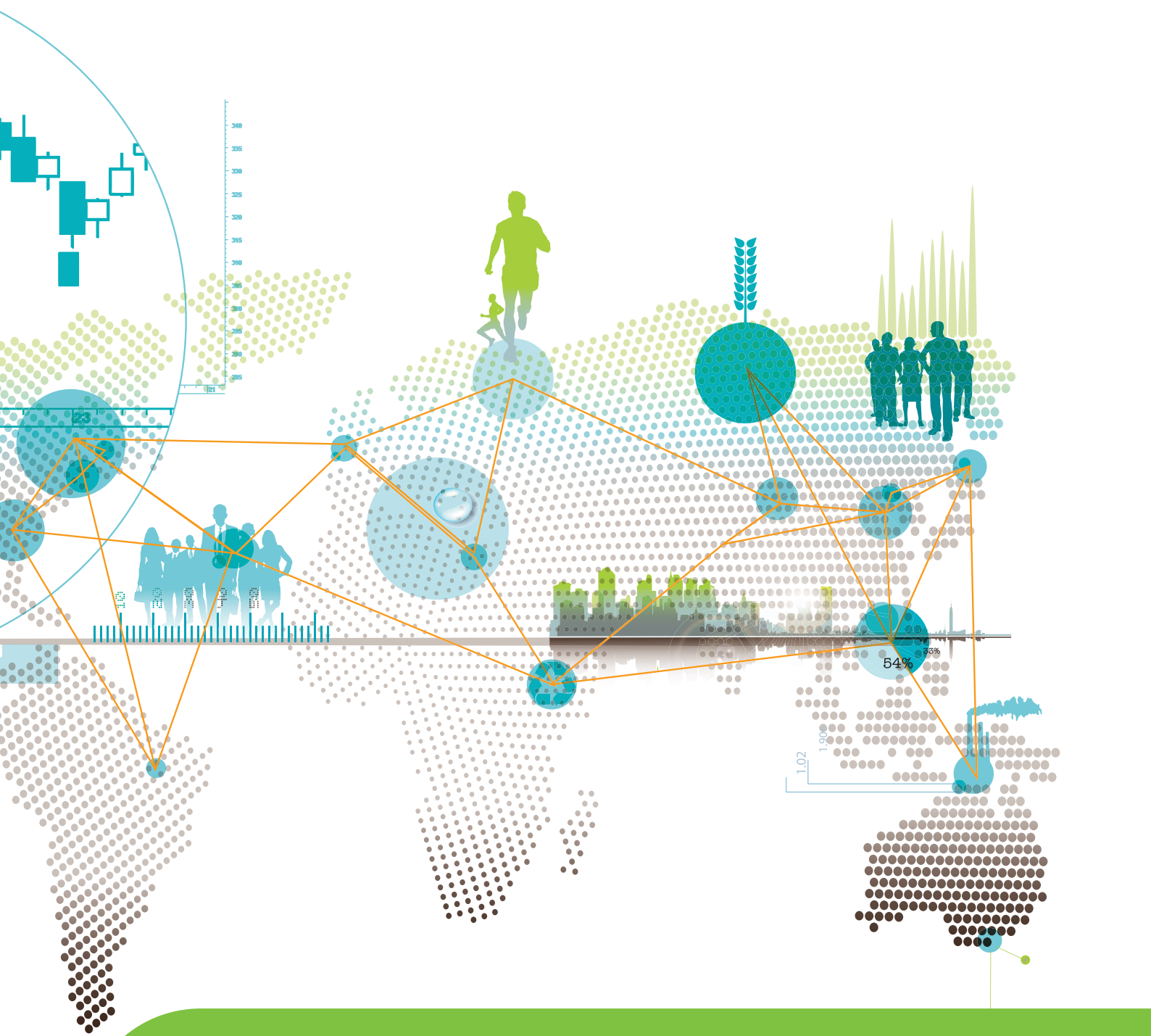
ROBECOSAM

Sustainability Investing



Measuring Country Intangibles

ROBECOSAM'S COUNTRY SUSTAINABILITY RANKING

Overview

The country sustainability framework evaluates 59 countries – 21 developed and 38 emerging markets – on a broad range of Environmental, Social and Governance factors that RobecoSAM considers to be relevant for investors.

It consists of 17 indicators, each of which is based on various data series, or sub-indicators. Each indicator is assigned a predefined weight out of the total framework. Based on the standardized scores countries receive for each indicator and its corresponding weight, a country sustainability score ranging from 1-10, with 10 being the highest, is calculated for each country.

The resulting scores offer insights into the investment risks and opportunities associated with each country, and allow investors to compare countries to each other.

Robeco and RobecoSAM's
Country Sustainability Ranking
08/2013
RobecoSAM AG
www.robecosam.com

Introduction

In an effort to continuously integrate sustainability considerations into a growing range of asset classes and prompted by the onset of the financial crisis, Robeco and RobecoSAM have been working together to develop a comprehensive and systematic framework for determining country sustainability rankings. This framework is designed to complement traditional rating agencies and traditional financial analysis of a country.

Country sustainability analysis offers a view into a country's underlying change drivers and offers investors insights into a country's strengths and weaknesses on a broad selection of environmental, social and governance factors. It primarily focuses on mid to long-term factors that have an indirect impact on a government's ability to repay its debt or raise revenues, but that are not considered by traditional sovereign ratings. Such factors reveal potential opportunities and threats faced by countries and that are not typically covered by rating agencies. Used in combination with traditional financial analysis, the Country Sustainability Ranking can be a powerful tool to improve investment decisions.

Over 25 years ago, the Brundtland Commission's report "Our Common Future" defined the now widely accepted concept of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1]

Robeco and RobecoSAM's country sustainability analysis is based on this definition and recognizes that a country's ability to safeguard the needs of its future generations extends beyond the protection of the environment and encompasses a range of social, economic and governance factors. In addition to evaluating a country's access to and management of its natural resources, Robeco and RobecoSAM's research considers a number of social factors such as investments in education, and governance factors such as aging policies. Such factors are frequently overlooked by investors, have indirect but long-term impacts on the country's risk profile, and are often embedded in the social and institutional structures of a country.

When countries fail to proactively address their long term challenges, such challenges eventually catch up with them, becoming short-term problems that require immediate attention. Sustainability analysis applied to countries primarily examines these types of long-term relationships. Recent events – from the Euro crisis to the unrest in Egypt – illustrate the relevance of this information for investors. Being aware of countries' structural flaws or strengths can help investors make better-informed investment decisions.

Robeco began to conduct internal research into country level sustainability as early as 2008. Leveraging Robeco's experience in managing government debt strategies and RobecoSAM's long-standing expertise in identifying and analyzing sustainability factors that are financially material to companies' performance, Robeco and RobecoSAM[2] joined forces to develop a framework for evaluating the sustainability profile of countries.

[1] "Report of the World Commission on Environment and Development: Our Common Future," 1987

[2] Robeco and RobecoSAM continue to work together on the Country Sustainability Ranking framework. For the sake of simplicity, all mentions of RobecoSAM from this point in the publication onward refer to both Robeco and RobecoSAM.

Research

The bulk of the research focuses on sourcing meaningful data. Considerable effort is devoted to identifying, categorizing and analyzing economic, social and environmental data from sources such as the World Bank, the United Nations, the World Economic Forum, or the International Labor Organization. Factors selected for inclusion in the country sustainability analysis framework must meet the following criteria:

Plausibility

The choice of data series must provide a plausible explanation for having an impact on the medium-term change in the risk profile of states.

Credibility of data sources

Data should be verifiable and free of subjective assumptions that can raise questions about the quality of the data. Therefore, only data from trusted external, publicly available data sources are used. RobecoSAM carefully checks all data before incorporating it into the country analysis.

Adequate country coverage

Data must be available for a broad range of countries, covering both developed and emerging countries. Emerging and developed countries are treated equally.

Limit data overlap

Although data overlap cannot be avoided completely, data redundancies should be limited as much as possible.

Sustainability Factors

The country sustainability framework considers criteria in the Economic, Social and Governance dimensions, which consist of a series of indicators and sub-indicators.

Environmental dimension: Environmental challenges pose a potential risk for investors, as repairing environmental damage can generate significant costs for taxpayers. Investments in preventing environmental problems limit and reduce such potential liabilities. In addition to evaluating the country's environmental policies, RobecoSAM examines its energy independence and energy policies. Countries that rely heavily on fossil fuel imports are vulnerable to external price movements or shortages. Another important risk is related to the country's exposure to natural hazards such as floods. In addition to the risks themselves, RobecoSAM specifically looks for evidence that policies for mitigating such risks have been put into place.

Social dimension: A weak social climate dominated by labor unrest or other social tensions is a potential investment risk. Such a climate can disrupt important economic activity such as manufacturing or trade and can paralyze policymaking. Strong social cohesion, on the other hand, supports orderly conflict resolution and facilitates necessary reforms.

Governance dimension: RobecoSAM looks at a broad range of data that takes into account the country's regulatory quality, central bank independence and political conflicts, among other factors. Civil liberties, internal conflicts and corruption are also indicative of a country's governance profile. Corruption levels, for instance, reflect the extent to which public power is exercised to protect the interests of a small group at the expense of society at large.

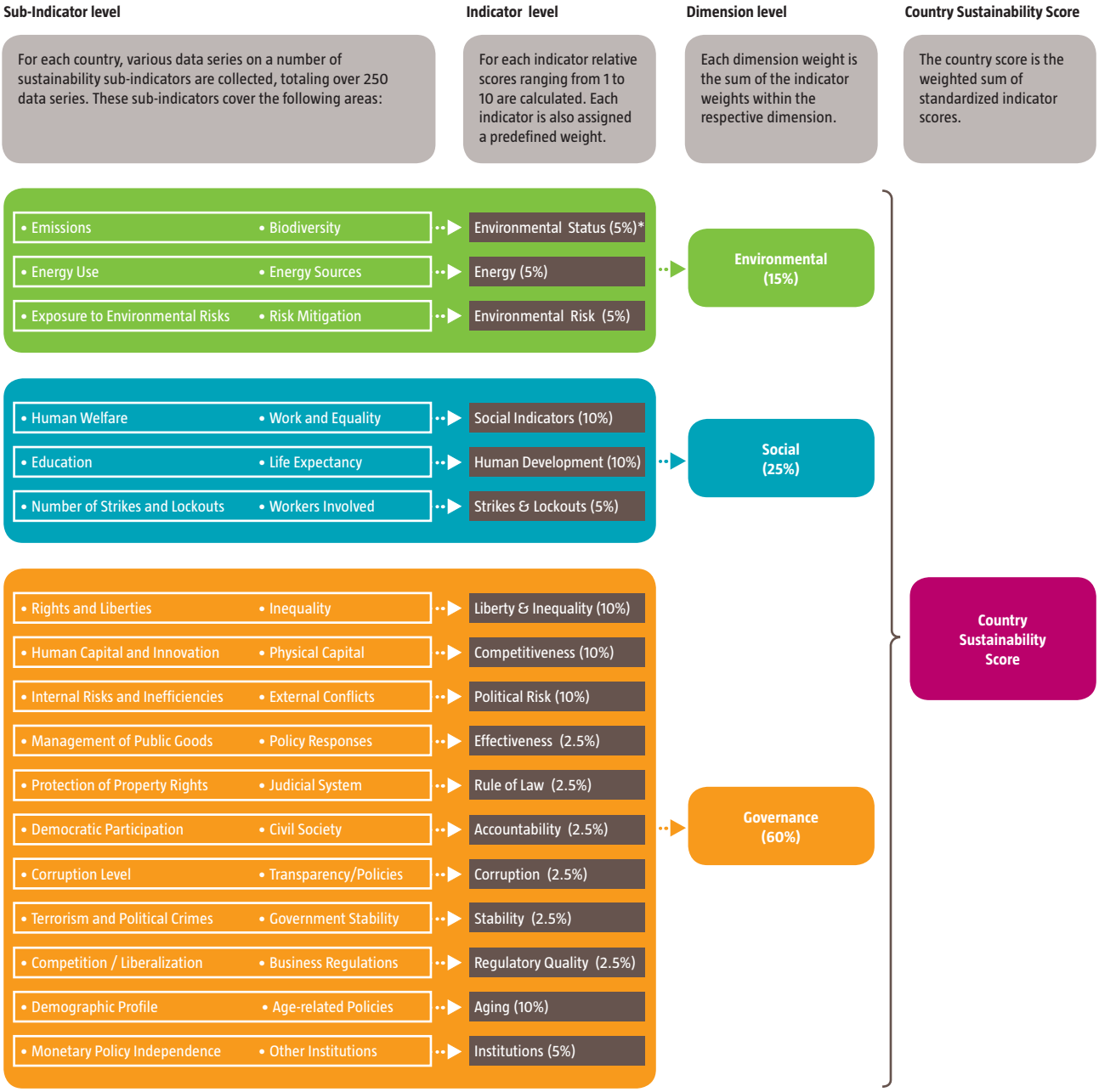
"We have leveraged our long-standing experience in identifying financially material sustainability factors and have applied this knowledge to country level analysis. We look at factors such as how a country's government deals with an aging population, the type of policies and structures in place to foster competitiveness, or its dependence on foreign sources of energy. All of these are essential for a country's long-term financial health."

Jürgen Siemer
Senior Analyst, RobecoSAM

A Structured Approach

Figure 1 provides an overview of the type of criteria selected for analysis and the general structure of the Country Sustainability Ranking framework:

Figure 1: Structure of the Country Sustainability Ranking Framework



*Pre-defined indicator weights as of June 30, 2013. Indicator weights may change over time.

Source: RobecoSAM

Sub-indicator

Sub-indicators provide granular detail on a range of broad factors, or indicators. For instance, within the energy indicator, RobecoSAM looks at the energy intensity required to produce a specific amount of GDP, the country's use of renewable energy sources and energy imports. Such detailed information enhances the country analysis.

Indicator

In order to make the broad range of distinct data comparable, data for each indicator is converted into a relative score on a scale from 1 to 10, with 10 being the highest. This is done through a normalization process based on z-scores, whereby scores are assigned to each indicator based on its average and standard deviation within the distribution of data points. Each indicator is assigned a weight of 5%, 10% or 15%, reflecting RobecoSAM's view on its potential impact on a country's risk profile.

The weighting scheme is reviewed twice a year, based on the results of statistical analysis. Indicator weights within each dimension add up to the total dimension weight.

Dimension

Indicators are grouped into one of the three dimensions: Environmental, Social or Governance. Each dimension weight is the sum of the indicator weights within the respective dimension.

Total Score = Country Sustainability Ranking

Each country receives a total score ranging from 1 to 10, with 10 being the highest. Each country score can be viewed as a rating for an individual country, determining its rank among all the countries that have been assessed. Country sustainability data is treated on a relative basis ensuring methodological consistency with credit ratings, which are in effect rankings. For additional details on the score calculation, please refer to the box below.

Score Calculation

Step 1: Calculate z-scores for each indicator using the distribution of indicators over countries.
The resulting z-scores range roughly between -3 and +3.

Step 2: Calculate the weighted average z-score per dimension (E, S and G). For missing indicator data, that indicator's weight is redistributed among the other indicators within the same dimension.

Step 3: Calculate a new z-score for the weighted average z-scores for each of the three dimensions

This statistical step is necessary because the distribution of weighted average z-scores (Step 2.) is no longer a z-score in terms of the distribution of the outcomes. Without this step, the weights would no longer be properly reflected in the overall score. The consequence, however, is that the individual z-scores do not add up to the total.

Step 4: Take the weighted sum of the recalculated z-scores for each dimension.

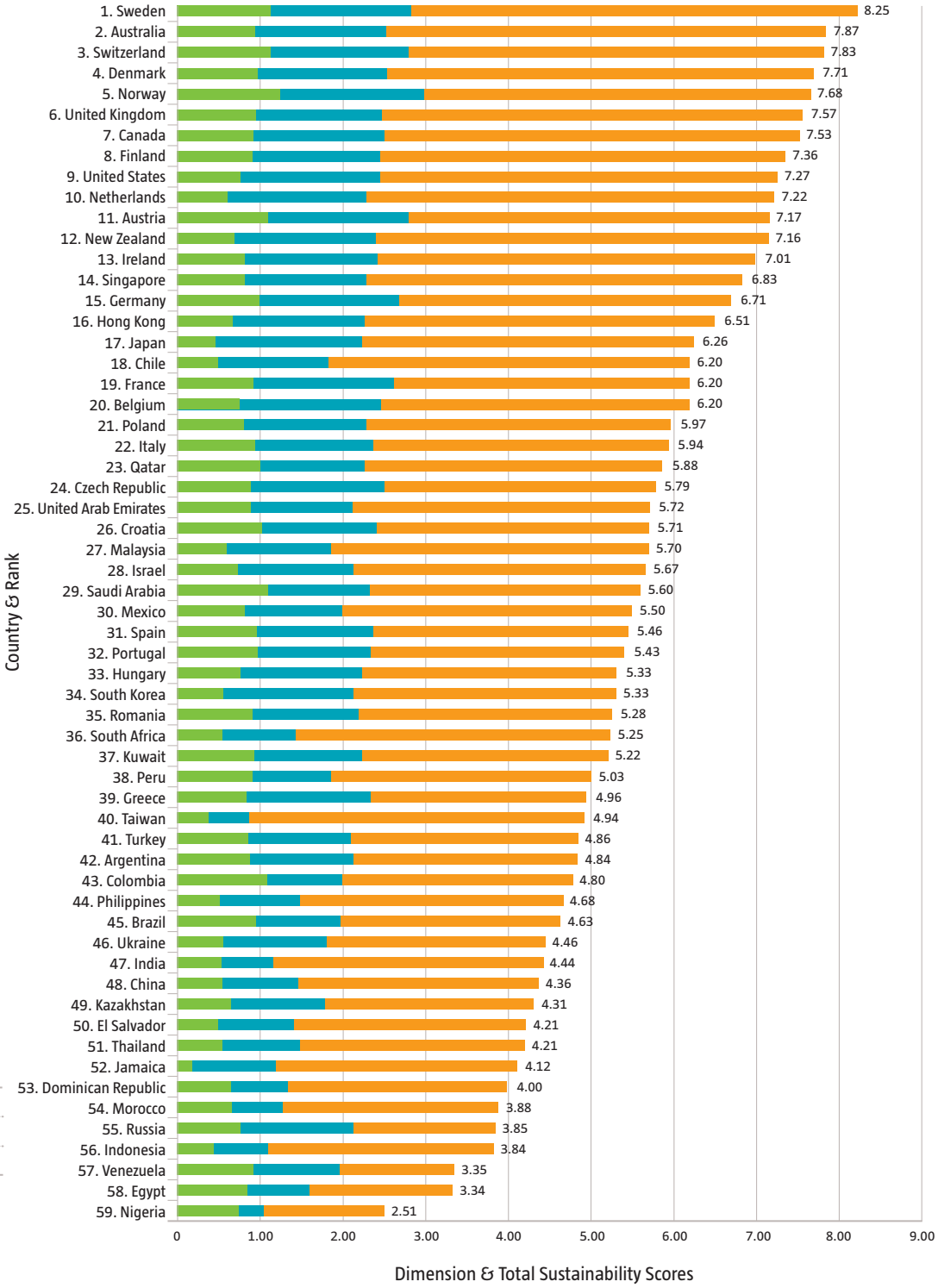
Step 5: Calculate again a z-score of these sums. This is for the same statistical reason as described in step 3.

Step 6: The z-scores range from -3 to +3. In order to convert a z-score into a sustainability score ranging from 1-10, the following equation is applied:

Country sustainability score = 1 + ((z-score + 3)*1.5)

Country Sustainability Ranking

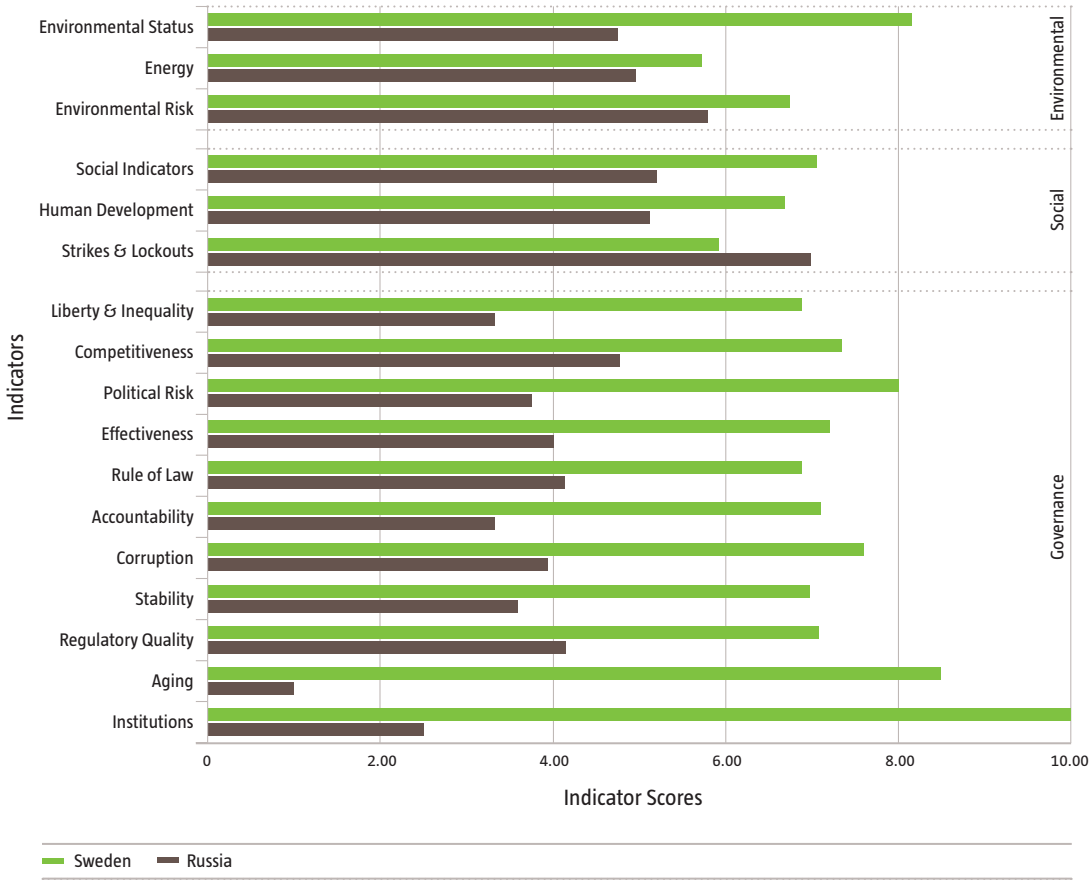
Figure 2: Country Sustainability Scores and Rankings



Source: Robeco, RobecoSAM
Data as of June 30, 2013

A Country Pair Comparison: Sweden and Russia

Figure 3: Indicator scores for Sweden and Russia



Source: Robeco, RobecoSAM, Data as of June 30, 2013

Based on the RobecoSAM framework, Sweden earned high scores across almost all criteria. Contrary to many developed countries, Sweden also scored well on Environmental factors such as the use of renewable energy sources and CO_2 emissions. On the Social dimension, the country performed well on factors such as labor participation, education and income inequality. Sweden's strengths were in the Governance dimension, where it earned the top score for its institutional framework.

In contrast, Russia scored weakly on a number of Governance factors. Noteworthy examples include political rights, civil liberties, rule of law, regulatory quality, corruption perception, and aging. Russia's scores on Social Indicators and Human Development were also lower. The only exception was for the smaller number of Strikes & Lockouts. On the Environmental dimension, Russia received low scores on criteria such as CO_2 emissions, waste management and the implementation of environmental policy. The improvement of its internal governance structures and the need to implement aging-related policies continue to be Russia's primary challenges.

Testing and Refining the Framework

Credit Default Swaps (CDS) can provide fixed income investors with protection against a company's or country's default on its debt. In essence, CDS spreads serve as an insurance premium: the riskier the investment, the higher its spread.

When comparing CDS spreads against RobecoSAM's country sustainability scores in a regression analysis, a negative correlation is expected: a higher country sustainability score represents lower sustainability risk and would therefore imply a lower insurance premium.

Until recently, CDS spreads for most developed countries have remained relatively stable and low. Therefore, the time frame for drawing a meaningful conclusion from a regression analysis of CDS spreads and country sustainability scores is relatively short.

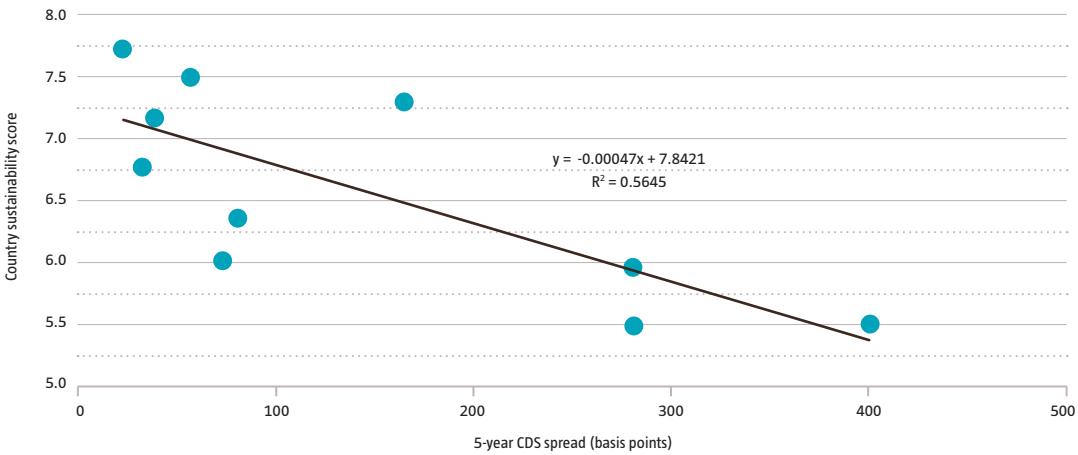
To test this assumption, RobecoSAM carried out a regression analysis on countries that were part of the European Monetary Union (EMU) as of 2012 and that were assessed by RobecoSAM, to determine the relationship between their country sustainability scores (independent variable x) and changes in sovereign credit default swaps (dependent variable y):

CDS spread =
constant + β * country sustainability score + ε

With R^2 as the key statistic used to determine whether the score is indeed significant and able to explain the differences between the CDS spreads of countries.

A statistically negative β would be expected if financial markets were to price in the country sustainability risk. In other words, a higher sustainability score would imply a lower CDS spread. Figure 4 shows the results of the regression analysis.

Figure 4: Regression analysis of country sustainability scores versus 5-year CDS spread for EMU countries assessed by RobecoSAM



Source: Bloomberg, Robeco

The negative relationship between a country's sustainability scores and the CDS spreads is evident in the scatter diagram in Figure 4, indicating that a stronger sustainability profile (score) corresponds to a lower insurance premium as measured by the CDS. This suggests that there is added value in gathering information on risks related to a country's sustainability profile in times of risk aversion.

In addition to examining the relationship between the sustainability scores and CDS spreads, an analysis of the relationship between the Environmental, Social and Governance dimensions was carried out. This more detailed examination reveals a strong positive correlation between the social and governance score in developed countries, suggesting that a stable social climate facilitates the governance of a country.

Another observation is that the relationship between Social and Governance factors and CDS spreads is stronger than it is between Environmental factors and CDS spreads. An explanation for this could be that the benefits of investments towards protecting the environment are typically not felt until the distant future, and some of the environmental damage, such as pollution, is often transferred to other countries. This observation supports the decision to assign a larger weight to Governance and Social indicators in the Country Sustainability Ranking framework.

"Our Country Sustainability Ranking tool complements traditional fixed income analysis. We look at the story behind the country's sustainability score. Our statistical analysis helps us identify which sustainability criteria are financially relevant, which in turn helps us make better-informed investment decisions."

Johan Duyvesteyn
Senior Researcher at Robeco
Quantitative Strategies

Case Study: France

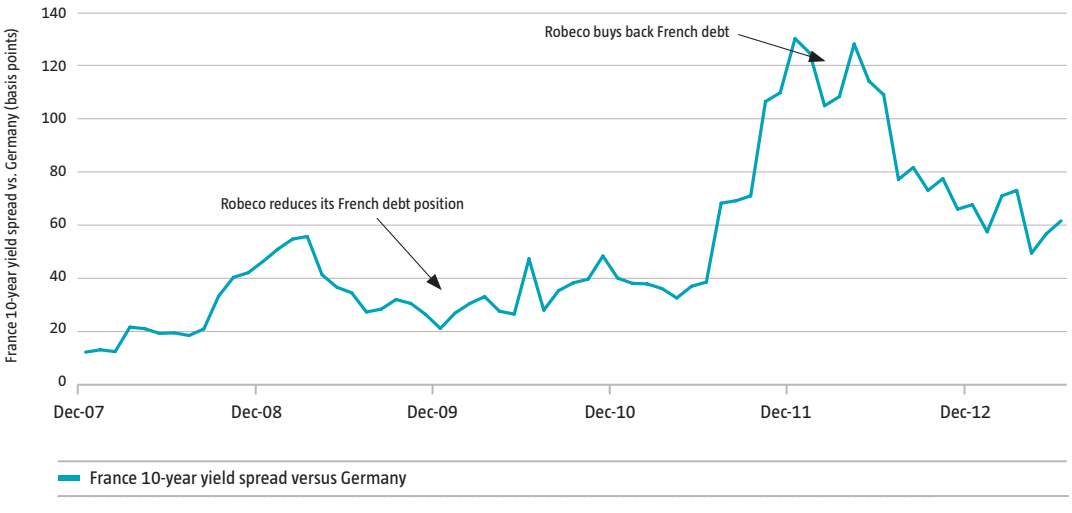
Since the inception of the EMU, French government bonds traded closely to German Bunds well into the start of the Euro crisis. Up until mid-2011, French 10-year government bonds had a yield spread of only 20 basis points over their German counterparts. Therefore, investors did not receive a much higher premium or reward for holding French bonds than they did for holding German bonds.

"By taking a closer look at France's sustainability profile in 2010, we were able to identify governance risks associated with French government debt that were not reflected by the yield spreads at the time."

Rikkert Scholten
Senior Portfolio Manager,
Robeco Fixed Income Department

However, the two countries' ESG profiles told a different story. France scored relatively well on various factors in the Environmental dimension, but there were some worrying indicators, particularly in the Governance dimension. For instance, World Bank data on France's governance effectiveness revealed a weaker profile than for other highly rated EMU countries such as Austria or Germany. This was reflected in the French government's stated plans to introduce reforms, and in its subsequent difficulty in implementing them. Other factors such as political risk and competitiveness also pointed to a weaker governance profile than in other AAA-rated countries such as Germany, but were not reflected in yield spreads. Based on this information, Robeco's Fixed Income Department decided to reduce its investments in French government bonds in 2010. For an extended period of time, the yield spread remained stable, but towards the end of 2011, the market's general awareness of France's country risk had risen and French bond prices declined relative to Germany, resulting in a higher country spread.

Figure 5: Spread between French and German 10-year government bonds



Source: Bloomberg, Robeco

In early 2012 French 10-year bonds were priced at a spread of approximately 130 basis points above German Bunds. At this point the yield spread reflected sufficient risk premium for the additional credit risk associated with holding French sovereign debt, and there was no longer a clear case for further trimming Robeco's investments in French government bonds. From then on, Robeco began to buy back French government bonds. Such an example illustrates how the integration of ESG analysis can help investors make better-informed investment decisions: by weighing a comprehensive risk assessment that goes beyond traditional financial factors against the expected compensation for these risks.

Conclusions

Investors' demand for long-term oriented strategies that integrate environmental, social and governance considerations across a range of different asset classes is likely to grow. This is particularly true in the wake of the financial crisis, which exposed some of the shortcomings of traditional measures used to evaluate country risk. RobecoSAM and Robeco will continuously refine its country sustainability methodology to capture sustainability measures that are relevant to country risk. This will ensure that the ranking serves as a valuable tool that provides additional information to complement analysis of countries' creditworthiness.

About RobecoSAM

RobecoSAM is an investment specialist focused exclusively on Sustainability Investing. Its offerings comprise asset management, indices, private equity, engagement, impact analysis and sustainability assessments as well as benchmarking services. Asset management capabilities include a range of ESG-integrated investment and theme strategies (in listed and private equity) catering to institutional asset owners and financial intermediaries across the globe. Together with S&P Dow Jones Indices, RobecoSAM publishes the globally recognized Dow Jones Sustainability Indices (DJSI). Based on its Corporate Sustainability Assessment, an annual ESG analysis of more than 2,000 listed companies, RobecoSAM has compiled one of the world's most comprehensive sustainability databases. RobecoSAM's proprietary research and sustainability insight, gained through its direct contact with companies, are fully integrated into its investment solutions.

RobecoSAM is a member of the global pure-play asset manager Robeco, which was established in 1929 and offers a broad range of investment products and services. Robeco also has a long tradition of practicing and advocating Sustainability Investing principles. RobecoSAM was founded in 1995 out of the conviction that a commitment to corporate sustainability enhances a company's capacity to prosper, ultimately creating competitive advantages and stakeholder value. As a reflection of its own commitment to advocating sustainable investment practices, RobecoSAM is a signatory of the UNPRI and a member of Eurosif, ASrIA and Ceres. Headquartered in Zurich, RobecoSAM employs over 100 professionals. As of December 31, 2012, RobecoSAM's assets under management, advice and license amounted to a total of EUR 8.6 billion.

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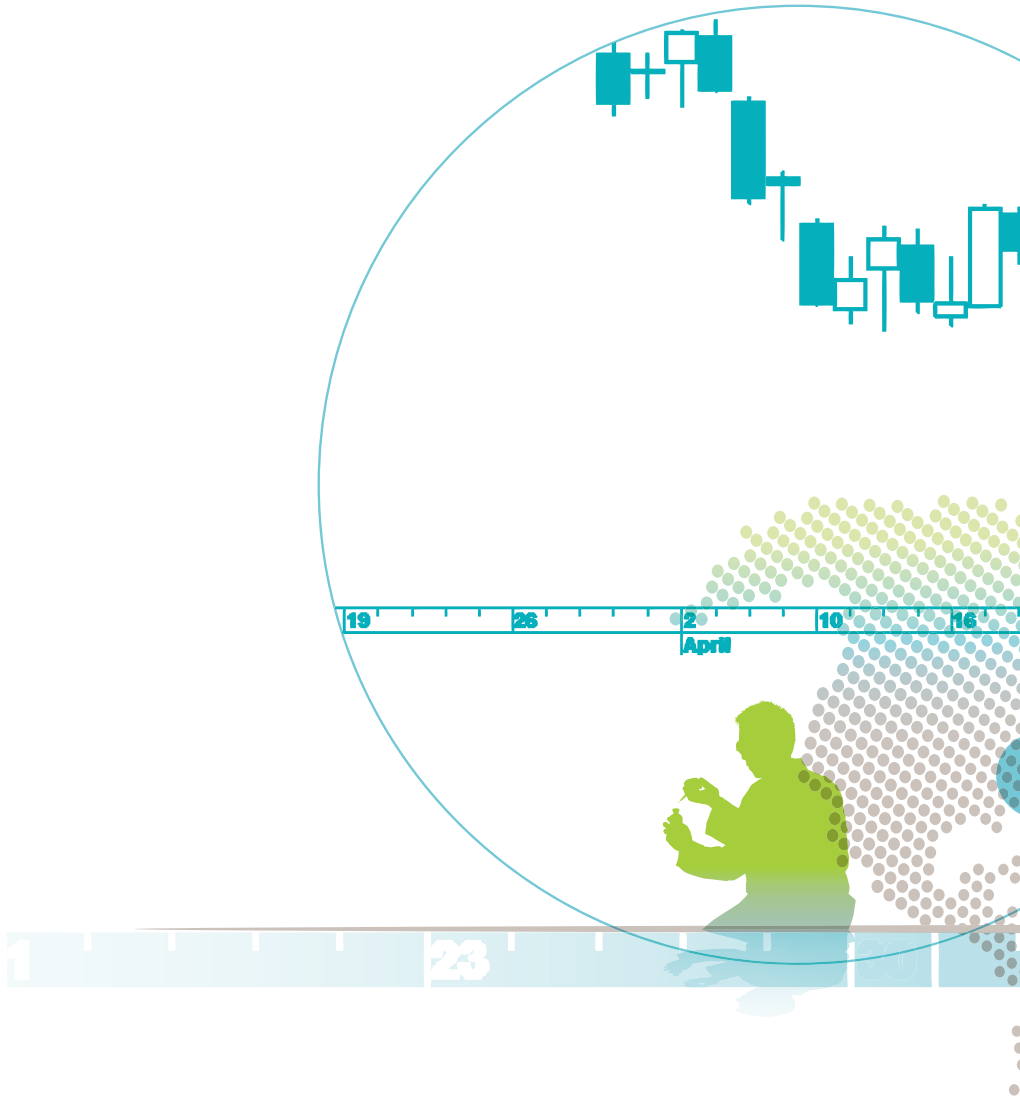

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