

Because of their long-term view, institutional investors such as re/insurers are naturally suited to focus on responsible investing.

There are still various hurdles on the way towards a broadly accepted, standard approach to integrating ESG into the investment process. Close collaboration between the private and public sectors would help to overcome these obstacles and contribute to a more resilient world.

We're smarter together.

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What ESG means for Swiss Re

For Swiss Re, 'responsible investing' is an investment approach that integrates environmental, social and corporate governance (ESG) criteria via a controlled and structured investment process to generate long-term and sustainable financial performance. Throughout this document, the terms ESG and responsible investing are used synonymously.

Foreword

Swiss Re is a long-term investor and we are committed to generating sustainable long-term returns. Today's macroeconomic environment is characterised by rapid and profound political and technological change together with record low interest rates. This makes investment management challenging for any investor. Navigating these challenges and being prepared for the future means acting today. Imagine the impact we can have if long-term investors succeed in fully integrating environmental, social and governance (ESG) considerations into our combined USD 75trn in institutional assets. We have a unique opportunity to make the world more resilient.

Swiss Re's Asset Management division was one of the first to embrace the now well-known and often-quoted ESG aspects in our investment management process. As the Financial Stability Board and the Bank of England noted – and as shown in this report – incorporating ESG aspects in investment decisions is key. Doing so is also fully aligned with our shareholders' interest in attractive risk-adjusted returns.

We have focused on sustainable investing for many years. However, given the obstacles for ESG integration, the degree of industry implementation has remained modest. We call on the private and public sector to work together for more harmonisation in oversight, definitions, rules and guidelines in the ESG area. Joint private-public efforts are needed to overcome the hurdles and contribute to a more resilient world.

This report outlines the broader industry developments, tools and methodologies employed as well as our specific approach to ESG. With this, we aim to share our own experience with like-minded investors and promote the development of a best practice framework on systematic ESG integration.

Guido Fürer

Group Chief Investment Officer

The momentum for ESG is building up

While responsible investing has been a topic for the investment industry for a number of years, it really gained momentum in the more recent past. And the momentum keeps building up. Several stock exchanges have issued guidance on environmental, social and governance related reporting. Banks publish ESG research on a very frequent basis.

In early 2005, the then United Nations Secretary-General Kofi Annan invited a group of the world's largest institutional investors to join a process to develop the Principles for Responsible Investment (PRI). The principles were launched in April 2006 at the New York Stock Exchange. In the meantime, the number of signatories has grown from 100 to over 1 600. PRI helps to understand the investment implications of ESG factors and supports signatories in incorporating these factors into their investment and ownership approaches.

Increased awareness on the part of the broader public and investment community together with growing regulatory requirements have all resulted in more explicit consideration of ESG aspects in institutional investor portfolios. Several surveys have highlighted growing investor interest: according to a survey conducted by State Street¹, the vast majority (80%) of the 475 institutional investors that responded, have some form of ESG strategy within their investment portfolios. However, the survey also found that the proportion of investors fully incorporating ESG factors into their portfolios remains low at roughly one-third. Motives are also shifting, from simply 'doing good' towards achieving a combination of return, risk and sustainability objectives. About three-quarters of institutional investors say that risk mitigation is a driver of their increased interest in ESG.

The growth in overall ESG assets – including retail investors and mutual funds – has been astonishing, but from a low base: $Eurosif^2$ estimates that in Europe, the asset size across all ESG strategies has reached EUR 11trn³. In the US, ESG assets are put at USD 8.7 trn⁴ and in Switzerland, responsible investments have grown by 39% since $2015^5.$ From a global perspective, the estimate for ESG assets under management is USD 22.9 trn. 6

¹ https://www.ssga.com/investment-topics/environmental-social-governance/2017/esg-institutional-investor-survey-us.PDF

² http://www.eurosif.org/wp-content/uploads/2016/11/SRI-study-2016-HR.pdf

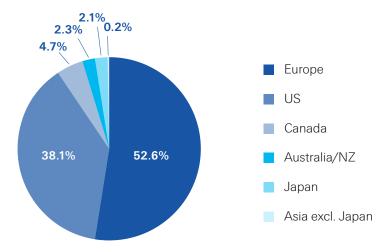
³ Figure adjusted by overlapping ESG strategies

⁴ US SIF, http://www.ussif.org/sribasics

⁵ FNG Marktbericht 2017, http://www.forum-ng.org/images/stories/Publikationen/ fng_marktbericht_2017_online.pdf

⁶ US SIF, http://www.ussif.org/files/Publications/GSIA_Review2016.pdf

Figure 1 Proportion of global ESG assets by region



Source: USSIF

The largest sustainable investment strategy globally is negative/exclusionary screening, ie 'the exclusion of certain countries, sectors or companies' 7 . This is followed by the explicit consideration of ESG aspects in financial analysis. The following table illustrates the significant growth across strategies from 2014 until 2016.

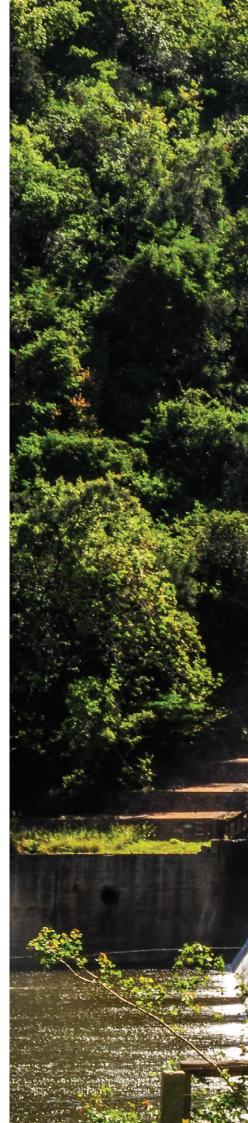
Figure 2 Significant growth of ESG strategies, 2014-16

Strategy	Growth	CAGR
Impact/community investing	146%	56.8%
Sustainability themed investing	140%	55.1 %
Positive/best-in-class screening	16%	7.6 %
Norms-based screening	42 %	19.0%
Corporate engagement and shareholder action	41 %	18.9%
ESG integration	38%	17.4%
Negative/exclusionary screening	25 %	11.7 %

Source: USSIF

"Shifting the large institutional asset base towards sustainable investments would mark a big step forward in making the world more resilient."

Walter B. Kielholz, Chairman of the Board of Directors, Swiss Re





Requirements for wider ESG adoption

So, as everyone is talking about responsible investing, why is ESG integration not yet part of the standard investment approach? One key reason is the absence of commonly accepted terminologies, guidelines and market standards. This was highlighted in a Chartered Alternative Investment Analyst (CAIA) Association survey that revealed that the vast majority (84%) of the 647 respondents think responsible investing lacks clear industry standards.⁸

Clear definitions, standards and methodologies

Having a more standardised responsible investing market environment with a generally agreed set of best practices provides clear guidance to investors and reduces investment barriers. Enabling a systematic and consistent integration of ESG considerations requires clear definitions, standards and methodologies. As a result, responsible investing would become more widely accepted and implemented.

Short-termism

Another hurdle can be the focus on short-termism in the current investment environment. Nowadays, company analysis often focuses on short-term data projections with quarterly or semi-annual reporting cycles. As a long-term investor, Swiss Re looks beyond the shorter-term to align the investment strategy with the business approach. Including ESG considerations reflects this approach as ESG factors materialise over a longer time horizon. However, financial market practice has still not fully reflected this view or, more concretely, made it part of investment analysis.

Lack of suitable investment products

Institutional investors are also challenged by the lack of suitable ESG-related investment products. Investors usually measure their performance against benchmarks. Traditional benchmarks do not include ESG approaches in their security selection, especially in the fixed income area. Moreover, benchmarks that do include ESG considerations are often skewed towards a very specific theme, such as carbon footprint reduction. Benchmarks that do consider ESG factors in a broader way often represent a reduced investment universe that may seem too restrictive for many institutional investors. Hence, there is only a limited number of viable alternatives to currently broadly accepted market indices.

There are signs that the industry is gradually developing its own solutions for these key issues, as the following example shows: in 2014, the International Capital Market Association (ICMA) created Green Bond Principles to help investors and issuers to deploy capital into green investments. Since then, the principles have continuously been revised and expanded. This initiative is a good example for the benefits standardisation brings to the industry. However, additional efforts are needed to build a more developed market. The major financial hubs that built up responsible marketplace practices would gain a competitive advantage, especially if the public and private sectors collaborate in this effort.

⁸ CAIA in the News; 'Responsible Investing Growing in Importance Driven by Ethical Principals, Institutional Investor Demands, and Business Opportunities, says New Survey from CAIA and Adveq'; 8 March 2017

The lack of best practice to manage climate risk in investments is another challenge. While the potential for coal-related investments becoming "stranded assets" represents a financial risk⁹, there is no standard disclosure approach yet. The Financial Stability board has set up the Task Force on Climate-related Financial Disclosure (FSB TCFD), where Swiss Re participated in, to close this gap. The TCFD $\,$ published its recommendations at the end of June, 2017. For our approach on stranded assets, see section "Exclusion".

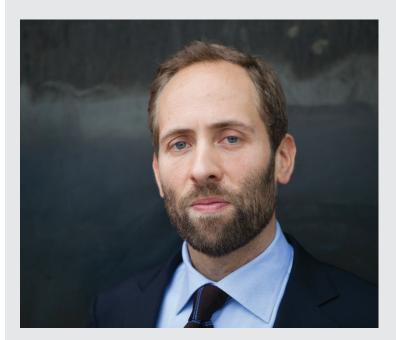
Overall, much of the available information and recommendations related to ESG investing remain on a rather theoretical level and are not sufficiently concrete for long-term institutional investors. BNP Paribas¹⁰ views the expected developments as follows: "Obtaining and analysing ESG data will require new tools, resources and skills for both asset managers and owners. So we expect technology to play an extremely important role in helping them meet their goals."

Well-defined and more detailed guidance is needed to help the investor base become comfortable with ESG integration and to support an industry shift towards longer-term and more sustainable investing. From a macro-prudential perspective, standard setters have to adjust quickly and provide an appropriate framework around the disclosure and regulation of responsible investing. This does not mean more regulation but rather regulation that more effectively embraces long-term, sustainable challenges.

⁹ Bank of England, "Quarterly Bulletin – The Bank of England's response to climate change", Q2 2017 10 BNP Paribas, Market Research, 'Institutional investors plan to double investment in ESG strategies over next two years, finds BNP Paribas research', 24 May 2017

"The main driver is risk reduction"

Dr. Philipp Krueger is an Assistant Professor of Responsible Finance at the University of Geneva and holds a Junior Chair at the Swiss Finance Institute. His research interests are in corporate, sustainable and behavioural finance. His work has been published in leading finance journals, such as the Journal of Finance and the Journal of Financial Economics. In his current research, he is studying such issues as corporate carbon disclosure and the sustainability footprint of institutional investors.



Academia has studied the relation between ESG characteristics and investment performance for quite a while. Based on your findings, can investors significantly improve their risk-return profile when systematically integrating ESG considerations into their investment portfolios?

Philipp Krueger: In a recent research project¹¹, we examined the stock portfolio-level sustainability of a large number of institutional investors. To quantify sustainability at the institutional investor level, we combined information on the portfolio compositions of institutional investors with stock-level sustainability ratings. We obtained information on portfolio compositions from publicly available regulatory filings from the Securities and Exchange Commission¹² and used sustainability ratings from several third party data providers. We calculated a weighted average portfolio-level sustainability score which we coined "sustainability footprint" (or impact).

We provided evidence that investors with better sustainability footprints exhibit higher risk-adjusted investment performance. Our analysis suggests that the main mechanism through which better sustainability translates into better investment performance is not return enhancement but rather risk reduction.

As such, we find that many standard risk measures are significantly lower for institutions with better sustainability footprints. It thus seems that integrating ESG considerations into investment decisions can contribute to better performance through improved risk management.

¹¹ R. Gibson & P. Krueger (2017). The Sustainability Footprint of Institutional Investors. Swiss Finance Institute Research Working Paper No. 17-05, available at http://goo.gl/qzhvSC

¹² The Securities and Exchange Commission requires investment managers with investment discretion over USD 100 million or more in publicly listed U.S. equity securities to report their portfolio holdings on Form 13F on a quarterly basis. (See http://www.sec.gov/fastanswers/answers-form13fhtm.html)

What are the main sources of debate and uncertainty around empirical findings on the relation between ESG and asset performance?

There is definitely increasing scientific evidence of a positive relation between ESG and investment performance. The main sources of debate are about (i) the extent to which different subdimensions of ESG contribute to performance, (ii) the mechanisms through which such performance enhancement occurs, and (iii) the direction of causality. ESG is a highly multidimensional concept that aggregates diverse aspects, such as environmental stewardship, labour and community relations as well as traditional corporate governance.

I think there is less debate about the investment benefits of analysing corporate governance. In contrast, when it comes to the environmental and social dimensions, there is still scepticism and debate as to whether and how issues such as community relations, labour standards or environmental efficiency contribute to investment performance. In addition, the mechanisms through which these issues contribute to performance are not clear. For instance, if risk-adjusted returns are higher for firms with good social performance, is this because such firms is able to attract and retain more talented employees or because consumers are more loyal to such firms and thus ready to pay higher prices for the firms' goods and services?

I think more research is needed to understand which ESG aspects really matter for financial performance and to distinguish between the mechanisms through which this value creation occurs.

Finally, reverse causality is also an issue that is often debated. For instance, a positive correlation between ESG and performance does not imply that assets perform better because they have better ESG characteristics. In fact, the opposite might be true in that better financial performance could cause better ESG performance. From

an investment perspective, this might be less relevant, but I think it is important to establish cause and effect, in particular if the research is supposed to provide information for investment policies or policy more generally.

What are the biggest challenges in measuring ESG at the asset level, and what are the main drivers of outperformance?

I think that one of the biggest challenges is to accurately quantify ESG at the asset level. First of all, some of the aspects are of qualitative nature (eg human rights policies), and thus inherently difficult to quantify. Furthermore, the information which is used to produce firm-level sustainability ratings is not standardised, most often sparse and difficult to come by. In addition, mandatory sustainability reporting – in the spirit of financial reporting – tends to be the exception rather than the norm. While there has definitely been a lot of progress in terms of measurement, in particular regarding the environmental dimension, I think there is still room for improvement on the social side.

Regarding the second part of the question. I think the main driver of outperformance is risk reduction. Managing sustainability-related risks will reduce the occurrence of extremely negative events, but firms with a good sustainability performance could still be subject to very negative events. As an example, think about BP, which had pretty good ESG ratings before the Deep Water Horizon incident. I also think that when looking at the relative short history for which ESG data is available, the corporate governance category is probably one of the main drivers of outperformance.

What are your expectations of the risk-return development under ESG considerations in the long term?

I do not have a crystal ball, but I am quite sure that ESG issues will become even more important going forward. I think there are two important trends. First, sustainability issues are important to vounger people, who will eventually become the decision makers in our society. Secondly, sustainability, and in particular environmental issues seem to be high on the agenda of some very large emerging economies, simply because the negative effects of environmental pollution and degradation are having a first-order impact on both economic growth and health conditions in these countries. Both trends imply a positive long-term risk and return outlook.

What is required as an immediate next step in order to accelerate the industry's adoption of ESG in your

I think there are two key elements. First, there must be some sort of leadership by both prominent finance and insurance institutions and their most senior decision makers (ie board members, senior executives) to signal that this is an important issue.

Secondly, and perhaps even more importantly, educating market participants is another important step. There is a large amount of innovation happening in the ESG investment space. For instance, there are new reporting recommendations (eg FSB TCFD), new asset classes, such as social bonds, and improvements and variations of metrics. It is important that market participants are aware of these developments and well-versed in terms of ESG investing. Continuing training and education of market participants is thus extremely important. Very often people still think that ESG investing is simply this concept of excluding specific assets or entire industries based on ethical, religious or other normative grounds. This might have been true a decade ago but it is a poor description of today's ESG investing landscape.

"Institutional investors are increasingly looking for ways to integrate ESG considerations into their investment process as they focus on long-termism by adopting investment strategies that explicitly build in their holistic views of the future. The MSCI ESG indexes address the evolving needs of institutional investors, who increasingly aim to incorporate ESG considerations into their strategic asset allocation.

Best-in-class is one possible approach to building an ESG index and consists of selecting companies that have the highest ESG quality, as determined by the ESG rating, in each sector. The benefits of the index are to maintain sector diversification and enable close and accurate tracking of the underlying market and its characteristics."

Deborah Yang, Managing Director and EMEA Head of Index Products at MSCI





Deep dive: ESG integration makes economic sense

As outlined previously, investors face various challenges when implementing a systematic ESG approach. These challenges start with questions about the implications on risk, return and diversification, sector positioning, the potential reduction of the investment universe, the selection of benchmarks, and the flexibility provided to portfolio managers.

This section provides a review of existing literature and research as well as Swiss Re's own analysis. The findings for both corporate credit and listed equities served as a basis for selecting our preferred approach to integrate ESG aspects along the entire investment process.

For the review, we only considered benchmarks that include a comprehensive ESG appproach. We extensively screened the available ESG index products, including the ones applying more complex construction rules: however, the more complex benchmarks often come with higher transaction costs, operational efforts and increased statistical issues. That is why we decided to focus on straightforward index rules.

Selected statements from ESG research

Barclays offers some of the more advanced research and findings with respect to ESG fixed income indices:

"We find that an ESG-positive tilt leads to a small but steady performance advantage; we find no evidence of a negative performance effect. We do not find any evidence to suggest that this performance advantage resulted in high ESG bonds becoming expensive versus peers and facing a prospect of mean reversion."15

A recent paper by the JP Morgan quantitative research team provides valuable insights on ESG equity investing:

"Our key takeaway is that ESG can enhance your portfolio by reducing volatility, increasing Sharpe ratios and limiting drawdowns. These points suggest both quant and discretionary managers should take a closer look."16

Besides sell-side analyst assessments, the economic rationale and performance of ESG indices has also been reviewed by several academic studies. A few extracts are listed below.

"Based on this sample, we clearly find evidence for the business case for ESG investing [...]. Both methods yield robust results which reinforces the claim that there is a business case for ESG investing."17

"Having analysed the performance in different phases, the mean outperformance of the SRI fund portfolio was significantly higher in the bull phase. The SRI fund portfolio performed negatively with respect to financial performance in the bear phase as well, but could outperform the MSCI World Index."18

Another relevant study has been produced by Brandon and Kruger (2017): their findings show that investors with a long-term horizon exhibit significantly better sustainability footprints and higher risk-adjusted returns, primarily through a reduction of risk. Such results are broadly in line with various analyses produced by Swiss Re, and are at the core of our sustainability strategy.

- 15 A. Desclée, J. Hyman, L. Dynkin and S. Polbennikov (2017). Sustainable investing and bond returns. Barclays Research
- 16 K. Chaudhry et al. (2016). ESG Environmental, Social & Governance Investing. JP Morgan Research
- 17 G. Friede, T. Busch and A. Bassen (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5:4, 210-233
- 18 O. Weber, M. Mansfeld and E. Schirrmann (2011). The Financial Performance of RI Funds After 2000. Responsible Investment in Times of Turmoil. Berlin, Germany: Springer, 75-91

Corporate credit benchmark analysis

For our corporate credit investments, we looked at several benchmarks. This section focuses on three corporate bond benchmarks that consider ESG integration in different ways. All of them are part of the Bloomberg Barclays corporate bond index family taking into account ESG data from MSCI:

- 1 The 'Bloomberg Barclays MSCI US Corporate ESG Weighted intermediate benchmark' starts with market capitalisation weights, overweighting issuers with better ESG ratings and underweighting those with low ESG ratings
- 2 The 'Bloomberg Barclays MSCI US Corporate ESG Sustainability intermediate benchmark' consists of companies that are rated BBB and above from an ESG
- 3 The 'Bloomberg Barclays MSCI US Corporate ESG Sustainability BB and above intermediate benchmark' consists of companies that are rated BB and above from an ESG perspective

We compared the ESG indices against the 'Bloomberg Barclays US Corporate intermediate index'. We use the abbreviations 'ESG Weighted Int', 'Sustainability Int', 'Sustainability BB and above Int' and 'Corp Int' to indicate the above indices.

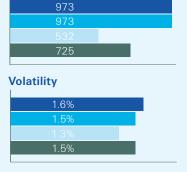
Specific ESG risks for a single company are expressed by ESG ratings, following the same notation as the well-known credit ratings provided by the agencies, such as S&P. The ESG rating range goes from AAA (best rating) to CCC (lowest rating). Even though these agencies themselves have acknowledged that ESG can impact an issuer's credit rating¹⁹, ESG ratings represent a different categorisation of risk by focusing on the relative position of a specific company to its sector from an ESG perspective. The ESG rating does not provide a statement about the creditworthiness of the company. A 'BBB' ESG and 'BBB' credit rating, for instance, are therefore not comparable. ESG aspects and the associated rating represent a return driver that does not seem to be fully reflected in market prices yet. Investors are therefore welladvised to analyse whether the risk-return characteristics of an investment adequately reflect the longer-term ESG criteria.

Our analysis focused on the sustainability benchmarks because they include only higher rated companies from an ESG perspective. Within these, the 'Sustainability Int' benchmark shows a substantial increase in ESG scores, which however does not always translate into superior risk adjusted performance. One plausible explanation is a reduction of the investment universe by more than 50% which comes with a loss of diversification benefits and an increase in concentration risk. The 'Sustainability BB and above Int' benchmark also applies a positive selection approach but includes securities with an ESG rating of at least BB or better. As a result, the covered investment universe represents around 70% of the parent index and 20% more than the narrower index, respectively. This is a clear benefit from a concentration risk and diversification perspective.

Figure 3 Overview of ESG credit benchmarks²⁰ Corp Int ESG Weighted Int

Sustainability Int

Sustainability BB and above Int



Issuers



Source: Barclays, Swiss Re calculations

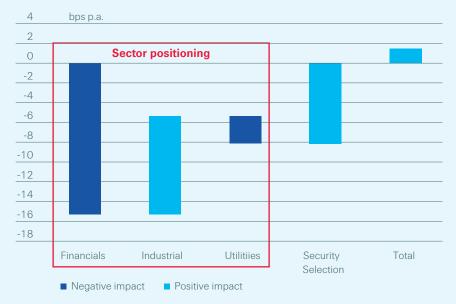
¹⁹ http://www.unep.org/newscentre/credit-ratings-embrace-more-systematic-considerationenvironmental-and-social-governance

²⁰ Performance statistics from June 2012 to May 2017. Number of issuers as of June 2017. Index turnover calculated over the full year 2015.

Besides the implications for the overall investment universe, switching to ESG benchmarks will also affect the relative sector weights with a material performance impact.

An attribution analysis is a useful tool to understand the key performance drivers: Figure 4 shows that the sector positioning resulted in a modest performance drag over the full sample. However, the more defensive sector positioning on financials was beneficial to reduce volatility and limit the downside during periods of financial market distress.

Figure 4 Performance attribution²¹



Source: Barclays, Swiss Re calculations

Taking the 2011 EU sovereign debt crisis as an example, the ESG benchmark showed a credit spread widening of 50bps while the traditional benchmark widened by 60bps, with the lower exposure to the financial sector being one of the main drivers for the better relative performance.

Figure 5 Credit benchmarks²², option-adjusted spread (OAS)



²¹ The figure illustrates a decomposition of the performance drivers of the 'Sustainability BB and above Int' index against the 'Corp Int' for the period June 2007-May 2017

²² OAS denotes the option-adjusted-spread which measures the additional yield of the index against an index of government bonds with equivalent duration

As shown in Figures 3 and 5, ESG benchmarks were found to exhibit equal or lower volatility and somewhat lower drawdowns in stressed markets, especially when considering the most recent history. Furthermore, the 'Sustainability BB and above Int' index provided a moderate outperformance²³, driven by security selection as can be seen in Figure 4. Looking at the overall historical developments, Figure 5 shows a slightly lower credit spread (option-adjusted spread) for the ESG corporate benchmark relative to a traditional benchmark. This comes with the benefit of a higher average credit quality.

Figure 6 Overview of ESG components and scores²⁴

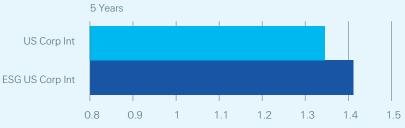


Source: Barclays, Swiss Re calculations

How was the portfolio impacted from an ESG perspective or, more specifically, on each of the three components E, S and G? ESG ratings are based on numerical ESG scores from zero to ten. These ESG scores depend on separate scores for the E, S and G dimensions, which also use also a numerical scoring from zero to ten. The higher the score, the better the rating. As illustrated above, all of the three dimensions improve compared to the traditional benchmark. This improvement is a result of the benchmark construction, as it only considers BB and above ESG-rated issuers for the eligible benchmark universe. Any non-rated issuers are excluded. The biggest relative impact can be seen in G.

Overall, the risk-return relationship of the 'MSCI ESG Corporate Sustainability BB and above Int' benchmark shows an improvement compared to the traditional index over the sample period, mainly driven by lower volatility.

Figure 7 Information ratio²⁵ of corporate credit benchmarks



Sources: Barclays, Swiss Re

²³ Relative to the 'Corp Int' Index

²⁴ Constituents and scores as of June 2016

²⁵ Performance statistics from June 2012 to May 2017. The information ratio is a measure of risk adjusted returns and it is computed as excess return relative to duration matched treasuries divided by the volatility of the excess return

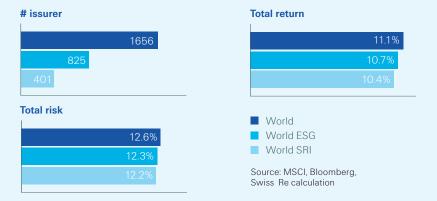
Equity benchmark analysis

This section provides some highlights of the analysis on the 'MSCI World ESG Index', which represents the ESG version of the MSCI World.

We carefully screened existing benchmarks along the implications on risk, return and diversification, sector positioning, the potential reduction of the investment universe, the selection of benchmarks, and the flexibility provided to portfolio managers, as mentioned in the introduction to this chapter.

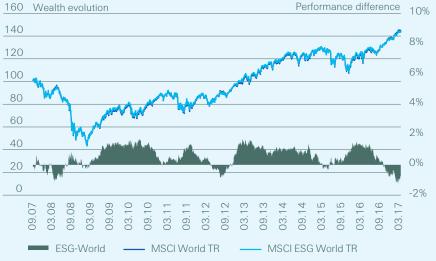
The MSCI World ESG Index is a market capitalisation-weighted index that provides exposure to companies with better ESG scores relative to their sector peers. The index is designed for investors seeking a broad, diversified sustainability benchmark with modest tracking error relative to its parent index. The index sector and country positioning are very close to neutral, with a free float-adjusted market capitalisation equal to 50% of the parent index. ESG index construction starts with the underlying regional parent indices as a reference. The ESG filter is applied per sector for each region before the selected companies are combined into the regional index. Regional ESG indices are then consolidated into the ESG World index. The World SRI index is constructed to include companies with the highest ESG rating up to 25% of the free float-adjusted market capitalisation of the parent index in each sector after excluding eight sectors (alcohol, tobacco, gambling, civilian firearms, military weapons, nuclear power, adult entertainment and genetically modified organisms).

Figure 8 Overview of ESG components and scores²⁶



During the various equity market corrections, the MSCI ESG index performance has either matched or exceeded the traditional benchmark. Over the last 10 years, the cumulative performance difference remained in a tight range between -1.2% and +1.7%, presenting a strong relationship between the parent index and its ESG version.

Figure 9 Equity benchmarks



Source: Bloomberg, Swiss Re calculation

26 Performance statistics from September 2010 to May 2017. Number of stocks as of June 2017

In addition, various valuation metrics of the MSCI World ESG Index do not materially differ from their parent index.

The table below illustrates that, in most cases, regional ESG portfolios considering better rated companies provide higher risk-adjusted returns compared to the equivalent portfolios composed of lower ESG rated companies.

Figure 10 ESG ratings impact on performance

	ESG rating	Returns	Volatility	Sharpe
All countries	>BB	1.00%	3.50%	0.28
All countries	<bbb< td=""><td>0.40%</td><td>4.20%</td><td>0.10</td></bbb<>	0.40%	4.20%	0.10
Developed markets	>BB	1.30 %	3.80%	0.34
Developed markets	<bbb< td=""><td>1.40%</td><td>3.90%</td><td>0.38</td></bbb<>	1.40%	3.90%	0.38
Emerging markets	>BB	3.10%	4.80%	0.65
Emerging markets	<bbb< td=""><td>2.80%</td><td>4.30%</td><td>0.63</td></bbb<>	2.80%	4.30%	0.63
Europe	>BB	1.70 %	4.20%	0.41
Europe	<bbb< td=""><td>-2.40%</td><td>6.60%</td><td>-0.36</td></bbb<>	-2.40%	6.60%	-0.36
US	>BB	2.40%	4.80%	0.51
US	<bbb< td=""><td>1.90%</td><td>5.60%</td><td>0.34</td></bbb<>	1.90%	5.60%	0.34
Japan	>BB	3.10%	3.40%	0.90
Japan	<bbb< td=""><td>2.70 %</td><td>5.00%</td><td>0.55</td></bbb<>	2.70 %	5.00%	0.55

Source: JPM [annualized return] - "How ESG can enhance your portfolio", performance between Jan 2007 and Sep 2016

As shown, for equities, a simple analysis of the risk-return profile of common ESG benchmark is not conclusive, with heterogeneous results across regions. In several instances, the use of ESG factors results in better risk-adjusted returns. This also reflects the different importance of ESG factors across regions.

Bottom line

The above analysis provides some clarity around the key questions and challenges when switching to ESG benchmarks. This is particularly true in respect to the implications concerning risk-return, the investment universe and the selection of different indices.

Overall, the findings confirm that over the last few years, consideration of ESG factors along the entire investment process has resulted in an improved risk-return profile for corporate credit investments and, to a lesser extent, equities. While the analysis focused on these asset classes on a stand-alone basis, we also modelled a consolidated portfolio composed of 70% credit and 30% equities with monthly rebalancing. This model portfolio reveals similar results: the traditional portfolio performs marginally better than the ESG portfolio but also shows a significantly higher volatility of returns²⁷.

The improvement in risk-adjusted returns makes the business case viable and increases the attractiveness of ESG integration for long-term investors. A stronger focus on managing environmental, social and governance criteria reduces their risk to negative market price adjustments. Even more, data suggest that taking a longterm view on responsible investing is at least as much about limiting downside risks as benefiting from upside potential.

As shown, a shift to ESG benchmarks would lead to a smaller investment universe and hence lower demand for the excluded securities. Over the long term, we expect that such movements will motivate these companies to further include ESG aspects into their business approach and extend their ESG-related disclosure. Due to the improved resilience to long-term risks, this is beneficial for investors as well as for the company itself. Consequently, ESG factors will have an impact on company valuation and cost of capital, and as such become an integral part of financial analysis.

27 Source: Swiss Re, Bloomberg, Barclays. Data sample September 2007 to May 2017

The asset management industry plays an important role in furthering sustainability efforts. Our efforts have to be in conjunction with asset owners, whose money we manage, as well as policy makers and regulators. In our view, the understanding of the risks and the integration of ESG topics in mainstream corporate and investment activities will continue to grow. BlackRock sees ESG as a sign of operational excellence and management quality of the companies we invest in on behalf of our clients. It means responsiveness to evolving market trends, resilience to regulatory risks and more engaged and productive employees. Hence companies also play a key role in advancing sustainability.

Amra Balic, Head of EMEA, BlackRock Investment Stewardship, BlackRock





Our approach to responsible investing

Swiss Re's investment philosophy centres on the principle of asset-liability management (ALM), the generation of long-term sustainable returns and a strong commitment to corporate responsibility. Under the ALM approach, we invest the premiums generated by our underwriting activities in assets whose cash flows match the durations and currencies of our re/insurance liabilities.

As an early adopter of sustainable investing, we formalised our commitment in 2007 by signing the UN-supported Principles for Responsible Investment. In 2012, we joined the United Nations Environment Programme Finance Initiative's Principles for Sustainable Insurance, which provides a global framework to address ESG risks and opportunities for the insurance industry.

Enhancement

Switch to broad-based ESG benchmarks focusing on higher ESG-rated investments

Inclusion

Focus on themes and create related mandates, such as green bonds, renewable or social infrastructure

Exclusion

Exclusions based on the internal Sustainable Risk Framework. Avoid investments related to thermal coal

Systematic integration of ESG considerations into investment process and portfolio

So, how do we actually implement our commitment into our portfolios? We systematically integrate ESG considerations into the investment process along three dimensions: enhancement, inclusion and exclusion. Enhancing our investment portfolio by adopting ESG benchmarks has been the most meaningful and strategic step in our journey. To adequately reflect the relevance of this step, we will first introduce this approach.

Enhancement

We switched to benchmarks composed of higher ESG-rated companies for our actively managed listed equity and corporate bond portfolios. As outlined in 'ESG integration makes economic sense', the underlying risk-return profiles are expected to improve by virtue of including ESG-related information in the investment decision. Since their performance is measured against these benchmarks, it is vital that our external managers understand the reasoning behind the adoption of ESG criteria. Such an approach creates the right incentives for portfolio managers to build a culture of long-term and sustainable thinking. Benchmarks represent a suitable tool to achieve the desired investment approach. They also set the right measurement criteria in order to reach our investment targets from both a performance and an ESG perspective.

As we further progress towards ESG integration, we continuously assess the latest market developments and gain experience to further improve and adjust the approach.

How

We enhance our investment process by consistently integrating ESG aspects (see illustration). The first step involves the addition of ESG characteristics in the investment mandates, such as specific ESG benchmarks. During the implementation, traditional benchmarks were replaced with ESG benchmarks. New benchmarks are not only used for performance measurement but also for the definition of the investment universe. Any benchmark-eligible investment needs to have a minimum ESG rating. Based on that, the investment universe shrinks to around half of the parent index for the equity benchmark and to around three quarters for the corporate credit benchmark. For buy and hold portfolios, ESG benchmarks define the eligible investment universe. For actively managed portfolios, portfolio managers are given some additional but limited investment flexibility. They are allowed to invest a small percentage in off-benchmark investments with additional ESG rating restrictions based on their own ESG assessment.

Investment process elements relevant for ESG enhancement

Mandate	Benchmark	Manager selection	Voting	Monitoring/ reporting
\$	\approx			e ii

The approach to select and monitor external investment managers is an additional component to ensure consistent integration of ESG factors. Our external managers are required to adhere to responsible investing criteria and are monitored accordingly. Relevant assessment criteria are governance and policies, the level of integration in the investment process of the external manager and reporting.

ESG considerations also flow into Swiss Re's voting guidelines applied to our equity holdings. The external managers' policies need to meet our voting principles. We regularly assess their voting guidelines against our own principles. Consequently, they are required to report periodically on their voting decisions.

For our government bond portfolio, we also apply a concept of minimum ESG rating standards taking into account our ALM approach. The ESG factors for government bonds include political risks, human rights and environmental issues. These criteria may affect the resilience of countries and therefore guide our responsible investment decisions to ensure the targeted ESG quality of the portfolio.

We systematically and regularly monitor our portfolio against actual ESG considerations by analysing ESG rating quality relative to risk and performance metrics. The portfolio managers are required to report on their responsible investment activities on a regular basis. Additionally, we have automatised systembased monitoring which flags all non-eligible assets.

Why

The broadly-used traditional benchmarks are constructed primarily based on market capitalisation. This results in neglecting long-term sustainability risks, as they are not yet fully reflected in current market valuations but might materialise in the future. As a long-term investor, it is in our interest to consider such sustainability risks in our investment process to make the portfolio more resilient against financial market shocks.

Inclusion

As part of an overarching ESG strategy, themed investments are an ideal approach to tackle specific sustainability topics. Themes can be defined as a portfolio overlay or represent a satellite investment strategy, such as green bonds.

Swiss Re continues to build up a portfolio that supports the transition to a low carbon economy. Our focus is on investments into green bonds and infrastructure renewables (see box). In the short term, we target a green bond portfolio worth at least USD 1.5bn.

In the real estate area, we apply the following sustainability criteria: energy source in relation to the market value of properties and MINERGIE® certifications. MINERGIE® is a Swiss sustainability brand for new and refurbished buildings. In the US, we work with our investment managers to advance our sustainability agenda. The approach to sustainability includes some of the most popular certificates and guidelines, such as the 'GreenGuide: Sustainable Property Operations', a best practice guideline for sustainable and efficient real estate operations; and the LEED certification of the US Green Building Council (USGBC).

How

The guiding principles for our green bond investments are the Green Bond Principles of the ICMA that include the use of proceeds, the process for project evaluation and selection, the management of proceeds and reporting.

For our infrastructure loan mandates, we work with best-in-class managers to gain access and invest in renewable energy projects that reflect our risk appetite, provide attractive long-term returns and help build a more sustainable energy supply for the future.

We have also actively contributed to the Financial Stability Board Task Force on Climate-related Financial Disclosure. As mentioned above, the task force published recommendations on the disclosure of climate-related financial risks.

Why

Climate change is a key topic for Swiss Re. Green bond proceeds are used to finance environmental sustainable projects that address key areas of concern, such as climate change, natural resources depletion, loss of biodiversity and/or pollution control.

Furthermore, infrastructure debt is an attractive asset class for a long-term investor like Swiss Re. Improving energy efficiency and developing low-carbon technologies, including renewable energy sources, are critical to reduce carbon emissions and to secure future energy supplies. Investments in renewables infrastructure are therefore the largest subsector within our infrastructure mandates.

Renewable energy infrastructure investments



As part of its broader infrastructure debt mandate, Swiss Re has been actively building up a portfolio of renewable energy transactions. The focus has been on solar and wind projects.

A recent example is a UK groundmounted solar project refinancing, encompassing a portfolio located in England. The total installed capacity amounts to 241 megawatts per hour. All the sites are accredited by Renewable Obligations Certificates and sell the produced power via a power purchase agreement with Neas Energy, supported by British Gas Trading Ltd.

The investment allows Swiss Re to benefit from an attractive risk-adjusted yield pick-up, a long-duration asset and regular cash flows, while supporting a transition to a more sustainable energy supply.

Exclusion

Swiss Re's strong commitment to sustainability is defined in several frameworks such as our Group Code of Conduct, the Sustainability Risk Framework as well as in our Responsible Investment Policy. The Sustainability Risk Framework sets company-wide criteria for what is considered acceptable business. Additionally, we avoid investments in companies with substantial revenues from thermal coal as part of our risk managing approach. If divested companies are able to adapt to a sustainable future, we may reinvest to support them in being part of tomorrow's solution

How

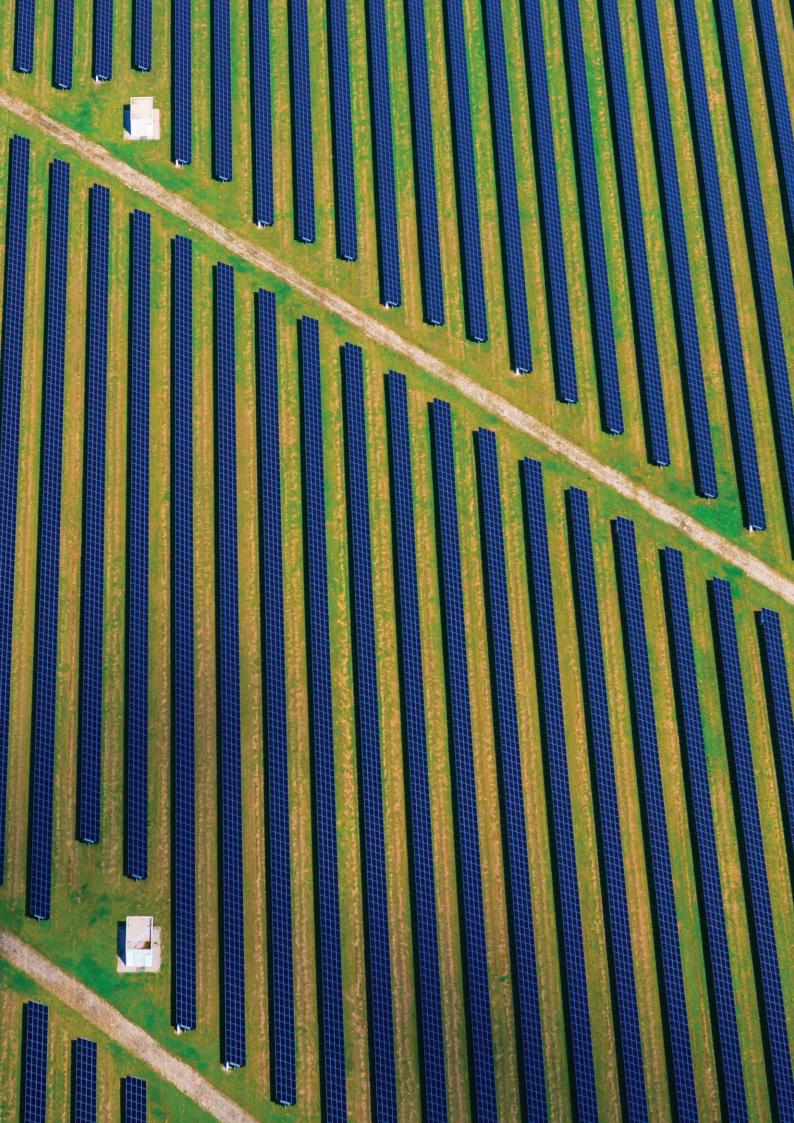
The group-wide Sustainability Risk Framework is an advanced risk management instrument specifically designed to identify and address sustainability risks in our core business. It consists of two umbrella policies on human rights and environmental protection and seven guidelines on sensitive sector issues, such as the defence industry, oil and gas, mining, dams, animal testing, forestry, pulp & paper and oil palm; and nuclear weapons proliferation. Each of these policies and guidelines contains a number of predefined criteria and qualitative standards that may trigger an exclusion of a company or a country from the investment scope.

As part of our commitment to a low-carbon economy, we assessed our portfolio on inherent risk of carbon emissions and stranded assets. This resulted in a decision to stop investing in companies that generate 30% or more of their revenues from thermal coal mining or that use at least 30% thermal coal for power generation. Furthermore, we divested from all related equity positions and the vast majority of our fixed income holdings. An external data provider supports us with portfolio screening services, identifying those securities that do not meet the above predefined criteria.

Why

Swiss Re is a signatory to the UN Global Compact. The Sustainability Risk Framework helps us to identify and mitigate such issues through embedding the principles of respect for human rights, environmental protection and due diligence.

Re/insurance companies in particular are heavily exposed to climate change. For instance, they insure the potential damage from natural catastrophes. As climate change is a key topic for us, we permanently track developments from working groups and regulators and manage the corresponding risk actively. Given ongoing developments (eg from France's Energy Transition Law), we expect more regulation with regard to disclosure on risks related to climate change. Carbon-intense companies might also be confronted with higher taxes or tighter regulation on carbon emissions, which may lead to increased risk of impairment due to unanticipated or premature write-downs or asset devaluations. As such, the asset becomes potentially stranded, which triggers a higher investment risk.



Sharing our experience

A few key considerations from our journey towards ESG integration:

- ESG integration is expected to show its benefits particularly over the longer term, thereby aligning well with the goals of long-term investors.
- Systematic consideration of ESG along the entire investment process makes economic sense: over a multi-year period, corporate bond portfolios constructed from companies with higher ESG ratings show a better risk-adjusted return. The same applies to equities, though not in all local markets to the same extent.
- Switching to an ESG-based benchmark often means a material reduction of the investment universe, which needs to be balanced with the desired diversification across individual investments.
- Taking a long-term view on responsible investing is as much about limiting investment returns' downside risks as benefitting from upside potential.

- An effective, systematic way to integrate ESG considerations is via portfolio manager incentives: adopting appropriate benchmarks and developing a monitoring and reporting framework will have the strongest impact on any institutional investor's portfolio.
- Excluding certain assets is often the first step to integrate ESG consideration in an investment portfolio. Exclusions should be based on clearly defined rules.
- Focusing on portfolio enhancements and inclusion, such as benchmarks and thematic investments, leads to a higher level of ESG integration than focusing only on exclusions.
- Active participation in the industry dialogue is important to develop standard guidelines and principles applicable to the wider investment community.

Looking ahead: Supporting the journey

The findings and methodologies outlined in this publication serve as a reference point for long-term investors and other financial market participants. To establish a broadly accepted approach to integrate ESG into the investment process, there are still many hurdles to overcome. The actions outlined in the table below would be a step in the right direction to solve these challenges. Aligning the private sector could trigger the much needed industry shift towards responsible investing.

Long-term investors are becoming increasingly important to provide a diversified funding source to the real economy and hence support sustainable economic growth. A combined investor effort will help us move towards generally accepted industry standards and a broader adoption of responsible investing. Ultimately, this will be beneficial for both investors and society at large: the former will benefit from improved risk-adjusted returns and long-term financial market stability, while the latter will benefit from a more responsible investor community and hence a more resilient world.

Undoubtedly, more work lies ahead for the investment community: Besides the needed industry standardisation, more long-term research on financial market implications will be required to consolidate the benefits of ESG integration. There is also a need for more private market products such as benchmarks, screening tools and standard ESG rating methodologies to offer institutional investors a broader set of options. This remains a journey and learning process for all financial market participants. Swiss Re continues to explore options to further integrate ESG considerations into its investment portfolio, and adjust benchmarks for other, more specialised asset classes.

We look forward to continuing to support these developments and encouraging close collaboration among industry participants. These efforts will ultimately be beneficial for society at large.

Impediment to broad-based ESG adoption	Required action	Description
Lack of market standards on ESG integration	Definition of market standard and best practice	There is a need for more widely accepted standards around ESG integration. This requires broad industry involvement with the support of a widely recognised private market association and the public sector
Lack of consistent company-level ESG reporting	Standardised reporting: key metrics to be reported by companies on a regular basis	Global standard metrics need to be defined, agreed and regularly reported by market participants. This will enable a stronger focus on quantification of ESG aspects in company analysis (see below)
Low importance of ESG in financial analysis	ESG as an integral component of performance analysis	ESG is still considered as non-financial data, and hence is not part of standard performance and company analysis. ESG should become a standard item in comprehensive risk assessment and measurement
Low market volume of ESG investment products	Clearer market standards around ESG investment products	Institutional investors face limited investment options into ESG investment products (e.g. ESG-based ETFs) given their relatively small size

Appendix: Abbreviations/Key terms

ALM	Asset-Liability Management
AuM	Assets under Management
CAIA	Chartered Alternative Investment Association is the globally recognised credential for professionals managing, analysing, distributing, or regulating alternative investments
ESG	Environmental, social and governance; factors considered in a responsible investing approach
FSB TCFD	Financial Stability Board Task Force for Climate- related Financial Disclosure
ICMA	International Capital Market Association; it promotes resilient and well functioning international debt capital markets, which are necessary for economic growth
LEED	Leadership in Energy and Environmental Design; LEED-certified buildings are resource efficient. They use less water and energy and reduce greenhouse gas emissions
Minergie	Minergie is a Swiss building standard that focuses on energy consumption and renewable energy as an energy source
MSCI	An index provider for traditional and ESG-related benchmarks; it also provides ESG-related company information
NGO	Non-governmental organisation
PRI	Principles for Responsible Investment; the world's leading proponent of responsible investment
S&P	Credit rating agency
Stranded assets	Assets that have suffered from unanticipated or premature write-downs or devaluations
Tracking error	Portfolio deviation from the reference benchmark in terms of volatility

Title

Responsible investments – Shaping the future of investing

Authors

Claudia A. Bolli, Laurent Degoumois, Michele Doronzo, Pascal Zbinden

Editing and realisation

Katharina Fehr, Richard Heard, Charlotte Nelson

Managing editor

Urs Leimbacher

Lavout

Swiss Re Corporate Real Estate & Services/ Media Production, Zurich

Photographs

Getty images

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Swiss Re Ltd Mythenquai 50/60 P.O. Box 8022 Zurich Switzerland

Telephone +41 43 285 2121 Fax +41 43 285 2999 www.swissre.com