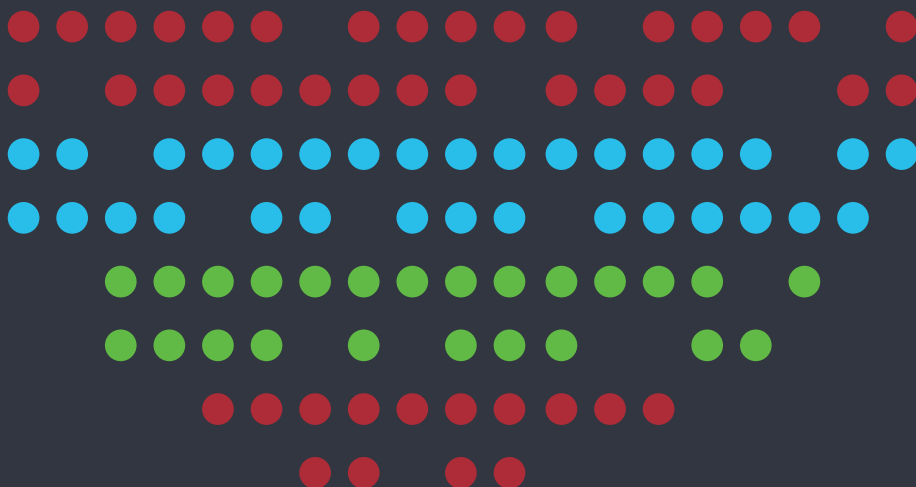




CFA Institute

PRI Principles for Responsible Investment

ESG INTEGRATION IN CHINA: GUIDANCE AND CASE STUDIES



The United Nations-supported Principles for Responsible Investment (PRI) Initiative is an international network of investors working together to put the six principles for responsible investment into practice. Its goal is to understand the implications of Environmental, Social and Governance issues (ESG) for investors and support signatories to incorporate these issues into their investment decision making and ownership practices. In implementing the principles, signatories contribute to the development of a more sustainable global financial system. There are currently more than 2000 signatories to the PRI who collectively manage approximately US\$80 trillion in assets. Visit www.unpri.org.

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SECTION 1

INTRODUCTION

EXECUTIVE SUMMARY

Portfolio managers and analysts are increasingly incorporating environmental, social, and governance (ESG) factors in their investment analyses and processes. However, ESG integration remains in its relative infancy, with investors and analysts calling for more guidance on exactly “how” they can “do ESG” and integrate ESG data into their analysis.

CFA Institute and Principles for Responsible Investment (PRI) set out to create a best-practice report (*Guidance and Case Studies for ESG Integration: Equities and Fixed Income*) and three regional reports (one for the Americas [AMER]; one for Asia Pacific [APAC]; and one for Europe, the Middle East, and Africa [EMEA]) to help investors understand how they can better integrate ESG factors into their equity, corporate bond, and sovereign debt portfolios. We are able to achieve this goal by

- surveying over 1,100 financial professionals, predominantly CFA members, around the world;
- running 23 workshops in 17 major markets;
- interviewing many practitioners and stakeholders;
- publishing more than 30 case studies written by equity and fixed-income practitioners;
- analyzing Bloomberg’s ESG company disclosure scores; and
- reviewing data from the PRI reporting framework, the largest global database of information on investors’ ESG practices.

THE 17 MARKETS WHERE THE 23 ESG WORKSHOPS WERE HELD

ESG WORKSHOPS ACROSS THE WORLD		
AMER	APAC	EMEA
Brazil	Australia	France
Canada	China	Germany
United States	Hong Kong SAR	Netherlands
	India	Russia
	Japan	South Africa
	Singapore	Switzerland
		United Arab Emirates
		United Kingdom

Abbreviations: AMER, Americas; APAC, Asia Pacific; EMEA, Europe, Middle East, and Africa.

The above-mentioned best-practice report contains guidance on ESG integration in equity and fixed-income investments and contains case studies on how ESG integration is “done” by leading practitioners.

This report focuses on the current state of ESG integration in the China. We hope that investors find this report and its companion reports useful and that these reports help investors learn how they can better integrate ESG data into their analysis and investment decision making.

TOP FINDINGS FROM SIX APAC MARKETS

Our main findings include the following points:

1. There is no “one best way” to do ESG integration and no “silver bullet” to ESG integration.
2. Governance is the ESG factor most investors are integrating into their process.
3. Environmental and social factors are gaining acceptance, but from a low base.
4. ESG integration is further along in the equity world than in fixed income.
5. Portfolio managers and analysts are more frequently integrating ESG into the investment process but are rarely adjusting their models based on ESG data.
6. The main drivers of ESG integration are risk management and client demand.
7. The main barriers to ESG integration are a limited understanding of ESG issues and a lack of comparable ESG data.
8. Investors acknowledge that ESG data has come a long way, but advances in quality and comparability of data still have a long way to go.
9. It would be helpful for issuers and investors to agree upon a single ESG reporting standard that could streamline the data-collection process and produce more quality data.
10. Many workshop participants were concerned that ESG mutual funds and exchange traded funds (ETFs) offered to investors may be driven by marketing decisions and may not be true ESG investment products.

Australia

1. Australian practitioners perform advanced qualitative and quantitative analysis of ESG factors to add insights at multiple levels: company, industry, and overall market. Unlike most markets, the number of practitioners who adjust their security valuations is only slightly lower than the number of practitioners who directly overlay qualitative ESG factors into their portfolio construction decisions.
2. Corporate governance is far and away the ESG factor most integrated by investors in the investment process, although survey participants expect environmental and social issues to become much more integrated in the investment process in the near future.
3. Risk management and client demand are the main factors driving ESG integration in Australia, with fiduciary responsibility seen as a main factor among fixed-income investors. A lack of understanding of ESG issues and a lack of company culture around ESG integration are the main barriers in Australia to ESG integration.

China

1. China has seen a significant uptake of ESG investing in the last couple of years. Like other emerging markets, a major driver has been ESG integration demand from international investors. Unlike some other markets, regulation has also been a major driver.
2. The evolution of ESG investing in Chinese investment firms tends to start with developing ESG products first, such as a green thematic mutual fund. However, it can quickly advance to incorporating ESG terms into the investment philosophy and ESG factors into investment research, processes, and decisions.
3. A limited understanding of ESG issues, a lack of company culture around ESG investing, and lack of comparable historical ESG data are seen as the main barriers to ESG integration. The inclusion of the China A-share market in the major indices has improved the data coverage and encouraged local companies to develop databases on ESG information.

Hong Kong SAR, China

1. There is a growing awareness of ESG in Asia but a relatively low level of ESG integration in Hong Kong SAR. Asia hasn't completely bought into it yet and needs proof of alpha and a stronger framework around ESG before ESG integration becomes more widespread.
2. Corporate governance is the most impactful ESG factor according to survey respondents, with social and environmental factors becoming much more influential on share prices and bond yields over the next five years.
3. Risk management and client demand are the main drivers of ESG integration in Hong Kong SAR. Client demand for ESG is likely to continue its upward trajectory as institutional investors and some retail investors want ESG investments. The demographics are changing across Asia, increasing the demand.

India

1. The buy-in for ESG investing in India has been slow over the last few years. While there are some early movers, most investment managers are not witnessing demand for ESG products or asset owners with policies that explicitly ask for ESG practices to be incorporated in an investment manager's process. Where there is demand, it is predominantly from multilateral institutions and European investors.
2. About two-thirds of financial professionals in India feel that corporate governance issues "often" or "always" impact share prices compared to one-third for environmental and social issues. In five years' time, however, well over half of those surveyed feel that environmental issues will "often" or "always" impact share prices and bond yields.

3. The main barriers to equity and fixed-income integration in India are a limited understanding of ESG issues, a lack of company culture around ESG integration and a lack of client demand. While the awareness is increasing due to foreign investors, there isn't the same level of interest from local investors. ESG investing is not receiving attention from the larger institutional investors in the Indian market, which has made a difference in other markets.

Japan

1. There was a recognition among workshop participants that ESG integration is just beginning to happen in Japan. Equity practitioners integrate ESG factors more frequently than fixed-income practitioners do. For both sets of practitioners, integrating ESG factors at the portfolio level is not yet commonly practiced.
2. Corporate governance is the ESG factor most incorporated into share prices and bond yields by investors by a factor of 2 to 1.
3. Fiduciary duty is a driver of ESG integration in the equity space, only behind risk management, while client demand for ESG integration mostly drives adoption in fixed income. Lack of understanding of ESG, limited data, and concerns about returns are barriers to ESG integration in Japan.

Singapore

1. There is increasingly more ESG integration in Singapore and Asia, and ESG issues are more frequently impacting prices. Asian economies are maturing. Asian countries are thinking more about the long term and not just about putting food on the table today. Asian countries are at the beginning of the journey but very eager to learn quickly about ESG.
2. Survey participants feel that environmental and social factors barely influence bond yields today but feel that those numbers will impact bond yields a great deal in five years' time.
3. A lack of comparable and historical data is the top barrier to incorporating ESG factors in equity investments in Singapore. The workshop participants were positive about data coverage and quality improving in the future, including for small companies, but there are still large gaps in the data that need to be filled.

CONSIDERATIONS FOR THOSE INTEGRATING ESG INTO THE INVESTMENT PROCESS

Based on our survey of global financial professionals, workshops with investors and analysts, and research for this report, CFA Institute and PRI wish to highlight a number of considerations financial professionals and investors should have in mind when integrating ESG factors into the investment process.

- There is no single agreed-upon definition of ESG or best practice for ESG integration. Therefore, integrating ESG analysis into the investment process should be done in a manner that best fits each individual firm, its resources, and its clients. However, a set of common best practices is beginning to emerge as professional investors increasingly integrate ESG factors into their analyses and investment processes.
- ESG integration looks at risks and opportunities revealed by the analysis of environmental (E), social (S), and/or governance (G) issues that are material for a company or market. It is often more complex than negative screening, though a not-insignificant minority of those we spoke to still think of ESG investing as simply a negative screen.
- One of the main reasons firms undertake ESG analysis is to assess risk. However, the results of our survey and workshops show that few investors are looking at ESG analysis as a means of uncovering investing opportunities. Investors who can spot companies that are improving their E, S, or G profiles—before the larger market does—may be rewarded. Numerous examples are available of academic¹ and practitioner research that support the benefit of the inclusion of ESG analysis in traditional financial analysis.
- Investors should focus on ESG *analysis*, not ESG *investing*. ESG investing is often used as a marketing slogan, whereas ESG analysis is a fundamental part of investment analysis and requires a disciplined and tangible approach to be fully integrated into the investment process. In the long term, we expect the term “ESG investing” will fade away as ESG analysis becomes more accepted as simply a part of investment analysis.
- ESG integration is consistent with a manager’s fiduciary duty to consider all relevant information and material risks in investment analysis and decision making. Some confusion arises at times when people assume ESG integration is only a negative screen in the investment process that limits one’s investment universe. Most practitioners would agree (as do we) that ESG integration includes a more thorough application of traditional financial analysis.

¹ Gunnar Friede, Timo Busch, and Alexander Bassen, ESG and Financial Performance: Aggregated Evidence from More Than 2000 Empirical Studies, *Journal of Sustainable Finance & Investment* 5 (December 15, 2015): 210–233. DOI:10.1080/20430795.2015.1118917

- Buyers should beware of products that claim to be ESG investment products. Many products marketed as ESG compliant or sustainable will define ESG differently and make different assumptions about what investments to include and what not to include. Investors need to do research when investing in anything called “ESG” or “sustainable,” to ensure they agree with the methodology behind those designations (see the companion report, *Guidance and Case Studies for ESG Integration: Equities and Fixed Income*).
- To date, one of the main drivers of ESG integration globally has been client demand, largely from institutional investors. Investors who want their asset managers to integrate ESG data into the investment process will have to demand it; when they do, asset managers are likely to respond. Likewise, investors who want better material ESG data from companies should also demand it.
- Asset owners and asset managers should strive to do a better job of educating each other about how and why they integrate ESG data in the investment process. Clear communication by investors to their clients about ESG integration could do much to reduce the confusion and misperceptions surrounding what ESG integration involves.
- Investors justifiably remain concerned with the quality, accuracy, and comparability of the ESG data they are using in their analyses. We are in the early days of ESG integration, and few standards and little verification are available with regard to ESG disclosures and ESG data. Thus, investors need to understand how robust, accurate, and comparable the data they are using are and adjust their analyses accordingly. In addition, investors and companies need to work together to agree on the reporting of material ESG issues only and to promote the standardization of ESG data.

HOW TO USE THIS REPORT

This report is intended to help investors better understand how professional investors are integrating ESG factors into their analyses and investment processes. This understanding, in turn, can help investors determine *how* to integrate ESG analysis into their own investment processes, and how to do so in a manner that makes sense for them.

The first section includes an overview of the key findings from our global survey and top three findings for six APAC markets: Australia, China, Hong Kong SAR, India, Japan and Singapore. It has listed considerations when integrating ESG issues into your process and introduces an ESG Integration Framework, which can be a reference for practitioners to use when comparing their ESG integration techniques with those of their peers and in identifying those techniques that are suitable for their firms.

The second section includes guidance on ESG integration, including a definition of ESG integration, examples of qualitative and quantitative data analysis and how ESG integration can be carried out in equities and fixed income.

The third section entitled “ESG integration in China” has the following subsections, which analyze the current and future impact of ESG factors on capital markets and investment practices, drivers of and barriers to ESG Integration, trends in ESG company data, and investment practices of local practitioners (see “Appendix A: Methodology”):

- a. Impact of ESG Factors on Capital Markets and Investment Practices: Survey Data.** We convey and comment on the results of a survey that provide respondents’ views of the current and future impact of ESG factors on share prices, corporate bond spreads, and sovereign debt yields in the Chinese capital markets. We analyze how investors are and are not integrating ESG in the investment process. This subsection provides readers with a snapshot of current practices in ESG integration.
- b. Drivers of and Barriers to ESG Integration: Survey Data and Workshop Feedback.** We held workshops in Beijing, Hangzhou, Shanghai and Shenzhen to discuss with local practitioners on the specific level and methods of ESG integration. Our intent is to help readers better understand the unique context of ESG integration in their own market.
- c. Trends in ESG Company Data: Equities and Fixed Income.** This subsection highlights the level of ESG company disclosure in China. We analyzed how the level of ESG data has changed over a five-year period across sectors and between listed companies of different sizes.
- d. Interviews.** We have interviews with four investment managers, Asset Management Association of China, and the People’s Bank of China to give readers more detailed examples of the availability of ESG company data and how some practitioners integrate ESG data into the investment process.

The report finishes with a section containing four case studies written by practitioners, each demonstrating how they integrated ESG issues into their investment analysis. The case studies cover equities and corporate bonds.

CASE STUDY TABLE

We collected more than 30 case studies to demonstrate many of the techniques found in the ESG integration framework (see the section “ESG Integration Framework”). The case studies were written by leading practitioners across 13 markets in the Americas, EMEA, and APAC regions.

You can use the case study table provided below to help you navigate the case studies found in this volume.

THE CASE STUDY TABLE

DOMICILE OF THE CASE STUDY AUTHOR	FIRM PROVIDING THE CASE STUDY	SECTOR/MARKET	ASSET CLASS	PAGE
Australia	Alliance Bernstein L.P.	Healthcare	Equity	30
Brazil	Santander Asset Management	General	Equity	95
Canada	AGF Investments Inc.	Chemicals	Equity	26
Canada	Manulife Asset Management	Technology	Equity	64
Canada	RBC Global Asset Management	Healthcare	Equity	92
China	E Fund Management Co., Ltd.	Chemicals	Equity	42
China	Hwabao WP Fund Management Co., Ltd.	Chemicals	Equity	56
Hong Kong, SAR	The Goldman Sachs Group, Inc.	Semiconductor	Equity	50
India	Quantum Advisors Private Ltd.	Chemicals	Equity	87
India	SBI Funds Management Pvt. Ltd., India	Waste Management	Equity	97
Japan	Nissay Asset Management Corporation	Industrials	Equity	76
Netherlands	NN Investment Partners	Materials	Equity	80

(Continued)

THE CASE STUDY TABLE (CONTINUED)

DOMICILE OF THE CASE STUDY AUTHOR	FIRM PROVIDING THE CASE STUDY	SECTOR/MARKET	ASSET CLASS	PAGE
Netherlands	Robeco	Telecoms	Corporate bond	122
Netherlands	Robeco	Turkey	Sovereign debt	152
Singapore	Arisaig Partners	Consumer Products	Equity	33
Singapore	AXA Investment Managers Asia (Singapore) Ltd.	Software	Equity	37
Singapore	Eastspring Investments	Automotive	Equity	45
South Africa	Momentum Investments	Property	Equity	71
South Africa	Old Mutual Investment Group	Mining	Equity	83
South Africa	Futuregrowth Asset Management (PTY) Ltd.	South African SOEs	Sovereign debt	141
Switzerland	UBS Asset Management	Multiple	Corporate bond/ Sovereign debt	126
United Kingdom	Inflection Point Capital Management	Chemicals	Equity	60
United Kingdom	Hermes Investment Management	Oil & Gas	Corporate bond	106
United Kingdom	Insight Investment	Technology	Corporate bond	110
United Kingdom	Man GLG	Food Retailer	Corporate bond	114
United Kingdom	Colchester Global Investors	Russia	Sovereign debt	132
United Kingdom	PIMCO	South Africa	Sovereign debt	148
United States	High Pointe Capital Management	General	Equity	53
United States	MFS Investment Management	IT Outsourcing	Equity	67
United States	Breckinridge Capital Advisors	Beverage	Corporate bond	102
United States	Sage Advisory Services, Ltd. Co.	Utilities	Municipal bond	156
United States	Angel Oak Capital Advisors, LLC	Financials	Structured credit	162
United States	PIMCO	Financials	Corporate bond	117

THE ESG INTEGRATION FRAMEWORK

After extensive analysis of the ESG integration techniques of direct investors across the globe, CFA Institute and PRI collated the many ESG integration techniques used by practitioners and developed the ESG Integration Framework (see **Figure 1**).

FIGURE 1: THE ESG INTEGRATION FRAMEWORK



The ESG Integration Framework is not meant to illustrate the perfect ESG-integrated investment process. Rather, the ESG Integration Framework is meant to be a reference so that practitioners can analyze their peers' ESG integration techniques and identify those techniques that are suitable for their own firm. We believe that this will be a useful resource and reference as you develop your ESG-integrated investment process over time. As every firm is unique, the ESG integration techniques of one firm are not necessarily the right techniques for all firms.

We recommend you refer to the ESG Integration Framework as you read this report as well as the “Investment Practices of Local Practitioners” subsections of each regional report.

RESEARCH: THE INNER CIRCLE

Qualitative Analysis

- **Company questionnaires:** Questionnaires sent to companies to collect more ESG data and information where the company's level of public ESG disclosure is inadequate. These questionnaires are also used in parallel with regular company meetings, where investors and companies will meet to discuss the most material ESG issues.
- **Red-flag indicators:** Securities with high ESG risk are flagged in lists, research notes, dashboards, and databases.
- **Watch lists:** Securities with high ESG risk are added to a watch list for regular monitoring.
- **Internal ESG research:** Based on a variety of data sources, proprietary ESG research/views/scores are created for all securities in the portfolio and investment universe.
- **SWOT analysis:** ESG factors are included in the traditional SWOT (strengths, weaknesses, opportunities, and threats) analysis.
- **Materiality framework:** A materiality/sustainability framework is created that includes all the key ESG risks and opportunities for each sector/market. This framework is referred to when making investment decisions and is regularly updated.
- **ESG-integrated research note:** Research notes/credit notes consist of traditional financial information and analysis and ESG information and analysis.
- **Centralized research dashboard:** Traditional financial data and ESG data are kept on one platform (dashboard/database) so practitioners can analyze concurrently traditional financial factors and ESG factors.
- **ESG agenda at (committee) meetings:** Investment teams (and possibly ESG teams/specialists) have a dedicated ESG item on all agendas of investment team meetings. Committees meet to discuss ESG strategy, ESG performance of portfolios, and/or controversial securities.

Active Ownership

- **Voting:** This structured process captures all voting rights and applies a rigorous analysis to management and shareholder resolutions before casting votes.

In addition to being used for voting, this process can be employed to submit resolutions on which other shareholders may vote.

- **Individual/collaborative/policy engagement:** Corporate engagement captures any interactions between the investor and current or potential investee companies on ESG issues and relevant strategies, with the goal of improving (or identifying the need to influence) ESG practices and/or improving ESG disclosure. Public policy engagement captures interactions between the investor and policymaker, regulator, or stakeholder group (e.g., an industry association or standard setter) on financial policy, regulation, and industry codes, with the goal of clarifying ESG requirements, including ESG integration, stewardship, and disclosure, and on ESG-specific topics, such as government commitments to action on climate change. Both corporate engagements and public policy engagements involve a structured process that includes dialogue and continuous monitoring of progress. These interactions might be conducted individually or jointly with other investors.

SECURITY LEVEL: THE MIDDLE CIRCLE

Security Valuation—Equities

- **Forecasted financials:** Adjustments are made to forecasted financials (e.g., revenue, operating cost, asset book value, capital expenditure) for the expected impact of ESG factors.
- **Valuation-model variables:** Adjustments are made to valuation-model variables (e.g., discount rates, perpetuity growth, terminal value) for the expected impact of ESG factors.
- **Valuation multiples:** Adjustments are made to valuation multiples to calculate “ESG-integrated” valuation multiples. These multiples are then used to calculate the value of securities.
- **Forecasted financial ratios:** Forecasted financials and future cash flow estimates are adjusted for ESG analysis and the effect on financial ratios is assessed.
- **Security sensitivity/scenario analysis:** Adjustments are made to variables (sensitivity analysis) and different ESG scenarios (scenario analysis) are applied to valuation models to compare the difference between the base-case security valuation and the ESG-integrated security valuation.

Security Valuation—Fixed Income

- Credit analysis
 - **Internal credit assessments:** ESG analysis is used to adjust the internal credit assessments of issuers.
 - **Forecasted financials and ratios:** Forecasted financials and future cash flow estimates are adjusted for ESG analysis and the effect on financial ratios is assessed.
 - **Relative ranking:** ESG analysis impacts the ranking of an issuer relative to a chosen peer group.

- **Relative value analysis/spread analysis:** An issuer's ESG bond spreads and its relative value versus those of its sector peers are analyzed to find out if all risk factors are priced in.
- **Duration analysis:** The impact of ESG issues on bonds of an issuer with different durations/maturities is analyzed.
- **Security sensitivity/scenario analysis:** Adjustments to variables (sensitivity analysis) and different ESG scenarios (scenario analysis) are applied to valuation models to compare the difference between the base-case security valuation and the ESG-integrated security valuation.

PORTFOLIO LEVEL: THE OUTER CIRCLE

Risk Management

- **ESG and financial risk exposures and limits:** Companies, sectors, countries, and currency are regularly reviewed and monitored for changes in ESG risks and opportunities and for breaches of risk limits.
- **Value-at-risk analysis:** ESG analysis feeds into value-at-risk models.
- **Portfolio scenario analysis:** Different ESG scenarios are run to assess the impact of ESG factors on portfolio risk and return.

Portfolio Construction

- **ESG profile (versus benchmark):** The ESG profile of portfolios is examined for securities with high ESG risks and assessed relative to the ESG profile of a benchmark.
- **Portfolio weightings:** Adjustments are made to weightings of companies, sectors, countries, and/or currency in a portfolio to mitigate ESG risk exposures and avoid breaching ESG risk limits and other risk limits.
- **Portfolio scenario analysis:** Different ESG scenarios are run to assess the impact of ESG factors on portfolio risk and return.

Asset Allocation

- **Strategic asset allocation:** Strategic asset allocation (SAA) strategies factor in ESG objectives and analysis to progressively mitigate the ESG risks and enhance financial performance.
- **Tactical asset allocation:** Tactical asset allocation (TAA) strategies factor in ESG objectives and analysis to mitigate short-term ESG risks.
- **Portfolio scenario analysis:** Different ESG scenarios are run to assess the impact of ESG factors on SAA strategies and TAA strategies.

SECTION 2

**ESG INTEGRATION
OVERVIEW**

WHAT IS ESG INTEGRATION?

ESG practitioners use multiple acronyms, terms, and practices when they talk about ESG integration. This makes it difficult for non-ESG practitioners to know if they are performing ESG integration. Terms such as *sustainable investing*, *ESG investing*, *socially responsible investing (SRI)*, *green investing*, *ethical investing*, and *impact investing* are often used interchangeably.

In this volume, *ESG integration* is defined as “the explicit and systematic inclusion of ESG factors in investment analysis and investment decisions.” It is a holistic approach to investment analysis, where material factors—ESG factors and traditional financial factors—are identified and assessed to form an investment decision.

ESG integration typically has three components:

- 1. Research:**
 - *Information gathering:* Practitioners gather financial and ESG information from multiple sources (including but not limited to company reports and third-party investment research).
 - *Materiality analysis:* Practitioners analyze relevant financial and ESG information to identify material financial and ESG factors affecting a company, sector, and/or country.
 - *Active ownership assessment:* Practitioners discuss material traditional financial factors and ESG factors with companies/issuers and monitor the outcome of engagement and/or voting activities.
- 2. Security and portfolio analysis:** Practitioners assess the impact of material financial and ESG factors on the corporate and investment performance of a company, sector, country, and/or portfolio. This can lead to adjustments to their forecasted financials, valuation-model variables, valuation multiples, forecasted financial ratios, internal credit assessments, and/or portfolio weightings (see “Qualitative Analysis versus Quantitative Analysis” for more information).
- 3. Investment decision:** The material traditional financial factors and ESG factors identified and assessed influence a decision to either buy/increase weighting, hold/maintain weighting, sell/decrease weighting, or do nothing/not invest.

WHAT ESG INTEGRATION IS NOT

ESG integration does not mean that:

- investment in certain sectors, countries, and companies is prohibited;
- portfolio returns are sacrificed to perform ESG integration techniques;
- immaterial ESG factors affect investment decisions and traditional financial factors are ignored; or
- major changes to your investment process are necessary.

ESG Integration Does Not Prohibit Investing in Certain Companies, Sectors, or Countries

Some practitioners believe that ESG integration and exclusionary screening are one and the same. However, these practices have two fundamental differences:

- One approach potentially reduces the investment universe; the other does not.
- One approach is a “values” approach; the other is a “value” approach.

Exclusionary screening is implemented through a screening policy that reduces the investment universe. The policy is applied at either the firm or the fund level and includes:

- a list of prohibited practices, products, and/or services; and
- rules that identify countries, sectors, and companies in which investment is prohibited.

Typically, exclusionary screening is implemented *before* any investment analysis takes place. This is contrary to ESG integration, where financial information and ESG information are embedded in the security selection and portfolio construction process and all companies, sectors, and/or countries in the investment universe can be bought and sold.

Portfolio Returns Are Not Being Sacrificed to Perform ESG Integration Techniques

A key component of ESG integration is lowering risk and/or enhancing returns. Practitioners apply ESG integration techniques to uncover hidden risks that might remain undiscovered without the analysis of ESG information and ESG trends.

ESG practitioners also look for investment opportunities to enhance returns. For example, some practitioners analyze automotive companies to see how they are reacting to trends in car electrification and factor this assessment into their revenue forecasts. Another example is practitioners who invest in companies with strong ESG management that are likely to outperform their competitors in the long run.

Immaterial ESG Issues Do Not Affect Investment Decisions

Another key component of ESG integration is materiality. Practitioners assess all material factors—traditional financial factors as well as ESG factors—to identify investment risks and opportunities that are considered highly likely to affect corporate performance and investment performance:

- If traditional financial and ESG factors are analyzed and found to be material, an assessment of their impact is carried out.
- If traditional financial and ESG factors are analyzed and found not to be material, an assessment is not carried out.

Practitioners assess several factors when judging whether ESG issues are material, including the following:

1. **Sector and country considerations:** Material ESG issues are commonly associated with certain sectors and countries. They include regulatory and technological changes associated with the business activity that the companies in a sector are involved in or the markets to which they source or sell.
2. **Company considerations:** Material ESG issues related to a sector may not be valid for all companies in the sector because:
 - material ESG issues of a company's business lines unrelated to the sector could outweigh material ESG issues of business lines related to the sector;
 - a company's products and/or services that benefit from ESG trends could mitigate or outweigh the ESG risk associated with its sector; or
 - a company's strong environmental and social management and good governance could mitigate the ESG risk associated with its sector.
3. **Time-frame considerations:** Practitioners who are long-term investors are likely to integrate ESG factors more regularly than short-term investors, as ESG factors tend to be low-frequency, high-impact factors that drive long-term performance.

No Major Changes Are Needed to Investment Processes and Practices

ESG integration is a useful complement to practitioners' current investment process and practices. The main addition to practitioners' process is the sourcing and analyzing of ESG information, which is necessary to understand the top ESG issues affecting a company, sector, or country.

Some practitioners develop new valuation models to include ESG information. Others feed ESG information into their existing models.

QUALITATIVE ANALYSIS VERSUS QUANTITATIVE ANALYSIS

ESG integration is commonly implemented by using approaches and analysis that are more qualitative than quantitative. Increasingly, however, practitioners are quantifying and integrating ESG issues into their company/issuer valuations.

Some examples of practitioner use of qualitative analysis of ESG issues to inform investment decisions include the following:

- The ESG analysis of a company or country is studied alongside the investment analysis of that company or country to inform a "buy/sell/hold/don't invest" decision. For example, if a company or country is viewed poorly based on its ESG performance and on its valuation assessment, it could lead to a "sell" or "don't invest" signal. If the same company or country is rated poorly on its ESG performance but well on its valuation assessment, it could lead to a deeper analysis of the company or country before a decision is made.

- The ESG analysis can be the deciding factor between otherwise identical companies or countries. If all other factors are equal, the practitioner will choose the company or country that performs better on its ESG analysis.
- Practitioners invest in undervalued securities that have an opportunity to outperform based on improving ESG performance and divest from overvalued securities that could underperform based on deteriorating ESG performance.
- If a company has a low ESG score/assessment on certain ESG factors, engagement with the company can improve those factors, resulting in a buy/hold decision.
- The ESG analysis can influence the maturity of the bond that an investor purchases.

Some examples of practitioner use of quantitative analysis of ESG issues to inform investment decisions include the following:

- ESG analysis of a company or country leads to an adjustment of its internal credit assessment.
- Temporary upward/downward adjustments to forecasted financials, valuation-model variables, valuation multiples, forecasted financial ratios, and/or portfolio weightings are made for ESG analysis/ESG scores through sensitivity analysis.
- Permanent upward/downward adjustments to forecasted financials, valuation-model variables, valuation multiples, forecasted financial ratios, and/or portfolio weightings are made for ESG analysis/ESG scores.
- Adjustments to forecasted financials, valuation-model variables, valuation multiples, forecasted financial ratios, and/or portfolio weightings are made through scenarios.
- ESG data/analysis is used as a factor in quant models/factor investing that impact portfolio construction decisions.
- Statistical techniques are used to identify the relationship between an ESG factor(s) and/or aggregated ESG score, and future asset price movements and/or company fundamentals. This can result in systematic rules that lead to portfolio-weighting recommendations.
- The beta of bonds with lower/higher levels of ESG risk is adjusted downward/upward so that the amount investors are able to hold in their portfolios could be more/less than previously calculated.

EQUITY INVESTING VERSUS FIXED INCOME INVESTING

Investment Practices

Currently, fixed-income practitioners practice ESG integration less than their equity practitioner counterparts. The CFA-PRI survey, which ran from 2017 to 2018,¹ showed that a higher percentage of **all** respondents are often/always integrating governance issues, environmental issues, and social issues into their equity analysis, compared to the percentage

¹ CFA Institute and Principles for Responsible Investment (PRI) commissioned the firm YouGov to administer a global survey on ESG integration. The survey asked questions to gauge investor attitudes toward ESG integration as well as to obtain a better understanding of how ESG integration is done in practice.

TABLE 1: RESPONDENTS WHO OFTEN/ALWAYS INTEGRATE MATERIAL ESG ISSUES INTO THEIR INVESTMENT ANALYSIS

	EQUITY ANALYSIS	CREDIT ANALYSIS
Governance Issues	56%	42%
Environmental Issues	37%	27%
Social Issues	35%	27%

of respondents who are often/always integrating governance issues, environmental issues, and social issues into their credit analysis (see **Table 1**).

This result may not come as a surprise. The first application of responsible investment practices—predominantly divestment and voting practices—were to fundamental equity strategies. ESG integration in equities started gaining momentum at the beginning of the 21st century, while ESG integration in fixed income is still in its infancy, although expanding rapidly. As a result, most asset owners and investment managers look to integrate ESG issues into their equity portfolios and funds before turning to their fixed-income portfolios and funds.

The belated development of ESG integration in fixed income reflects a previously widespread view that ESG integration and fixed income are incompatible, based on arguments such as the following:

- The inherent complexity of bond markets—given the greater size of the market, variety of instrument types, maturities, and issuing entities—makes it harder to integrate ESG issues into credit risk assessments, especially when assessing interest rate risk and liquidity risk.
- Corporate bondholders can't vote, and find it harder to effectively engage due to limited access to management (bondholders do not have a formal communication process such as the annual general meeting), while sovereign debtholders find it harder to effectively engage with sovereign debt issuers such as governments.
- ESG factors impact bond prices less frequently because:
 - low liquidity in the credit market (especially compared to equity markets) makes it hard to buy or sell bonds based on news of ESG controversies; and
 - traditional financial factors (interest rates, inflation, etc.) have the overriding influence on prices and therefore it is not necessary to analyze ESG issues.

These views are gradually changing as an increasing number of practitioners incorporate ESG issues into fixed-income portfolios and funds. Of course, fixed-income practitioners still can't vote, but they do engage². Portfolio managers and credit analysts regularly contact companies and meet management in person, sometimes with their firm's equity portfolio managers and equity analysts, and at roadshows. However, it is still rare for a

² PRI (2018). *ESG Engagement for Fixed Income Investors—Managing Risks, Enhancing Returns*. <https://www.unpri.org/fixed-income/esg-engagement-for-fixed-income-investors-managing-risks-enhancing-returns-/2922.article>

group of fixed-income practitioners to engage with companies collaboratively and for fixed-income practitioners to engage with sovereign debt issuers.

In fixed income, a key application of ESG data is to inform the analysis of issuer creditworthiness. Some practitioners have integrated ESG factors into their interest rate risk analysis when assessing bonds with varying maturities issued by the same issuer. For some issuers, the material ESG factors associated with a five-year bond will differ from those associated with a ten-year bond.

That practitioners are now integrating ESG factors into their fixed-income analysis suggests they do believe that ESG factors can be material and therefore can affect bond returns. The CFA-PRI survey supports this conclusion. **Table 2** shows that survey respondents believe that ESG issues are impacting share prices, corporate bond prices, and sovereign debt prices and will do so even more frequently in five years' time (2022).

TABLE 2: THE IMPACT OF ESG ISSUES IN 2017 AND THE EXPECTED IMPACT IN FIVE YEARS' TIME (2022) ON SHARE PRICES, CORPORATE BOND YIELDS/SPREADS, AND SOVEREIGN DEBT YIELDS

	AFFECTED IN 2017	WILL AFFECT IN 2022
ESG ISSUES IMPACT ON SHARE PRICES		
Governance	58%	65%
Environmental	23%	52%
Social	23%	46%
ESG ISSUES IMPACT ON CORPORATE BOND YIELDS/SPREADS		
Governance	41%	53%
Environmental	15%	40%
Social	15%	35%
ESG ISSUES IMPACT ON SOVEREIGN DEBT YIELDS		
Governance	35%	44%
Environmental	12%	31%
Social	18%	32%

Note: Percentages represent respondents who answered “often” or “always.”

ESG Issues

Table 2 also shows that across governance issues, environmental issues, and social issues, practitioners believe that these issues are impacting share prices more often than bond prices. Some arguments that practitioners have used to back these results include the following:

1. Share prices are more reactive to news flow and market sentiment than bond prices. When an ESG controversy that impacts a company becomes public knowledge, the effect on the company's share price is greater than the effect on the company's bond prices.
2. The equity market is more liquid and has higher volatility than the credit market. Thus, ESG factors have a more immediate impact on share prices than bond prices.
3. Client demand is higher for equity products with ESG mandates. Therefore, asset flows drive share prices more than bond prices.
4. The upside potential of bonds is limited, which can act as a buffer to bond price movements.
5. Macroeconomic factors, in particular interest rates, are key drivers of bond prices and override the impact of ESG issues.
6. Due to the fixed-income market's size, variety of instrument types, maturities, capital structure positioning, and issuing entities, ESG factors impacting an issuer may manifest themselves differently depending on the bond characteristics.

When comparing the figures for corporate bonds and sovereign debt, the results suggest that environmental, social, and governance issues impact sovereign debt prices less frequently than corporate bond prices, but only slightly.

Interestingly, social issues are considered to be impacting sovereign debt yields more frequently than environmental issues both in 2017 and in 2022. Social and environmental issues are considered to impact share prices and corporate bond yields/spreads at roughly the same frequency now but by 2022, environmental issues will impact more frequently than social issues.

ESG IN EQUITY ANALYSIS

Typically, ESG practitioners apply qualitative ESG analysis to inform investment decisions. They use internal and third-party research to create individual proprietary scores for environmental issues, social issues and governance issues, which are also weighted to create an aggregate ESG score for each company in the portfolio and in the investible universe. Several ESG practitioners hold regular ESG-dedicated meetings to discuss these proprietary scores and their accompanying analysis to assess the potential impact of ESG issues on corporate performance and investment performance of companies and sectors.

Systematic Strategies—Quant Strategies and Smart Beta Strategies

Although ESG integration has historically been associated only with fundamental strategies, quant and smart beta strategies are now integrating ESG factors into their valuation models and investment decisions. As ESG data become more prevalent, statistically accurate, and comparable, more managers are likely to perform statistical techniques to identify correlations between ESG factors and price movements that can generate alpha and/or reduce risk.

The quant managers who perform ESG integration have constructed models that integrate ESG factors alongside other factors, such as value, size, momentum, growth, and volatility. ESG data are included in their investment processes and could result in upward or downward adjustments to the weights of securities, including to zero.

Quant and smart beta strategies use two main approaches when integrating ESG factors into quantitative models. These approaches involve adjusting the weights of:

- securities ranked poorly on ESG to zero, based on research that links ESG factors to investment risk and/or risk-adjusted returns; and
- each security in the investment universe, according to the statistical relationship between an ESG dataset and other factors.

Fundamental Strategies

Buy-side fundamental practitioners and sell-side brokers integrate ESG factors, together with all other material factors, into their absolute and relative valuation models. They indicate their views on the impact of ESG factors and traditional financial factors on company valuations by adjusting future revenue growth rates, future operating costs, future capital expenditures, discount rates, terminal value, and other variables.

Revenue

To forecast revenue, practitioners typically take a view on how fast the industry is growing and whether the specific company will gain or lose market share. They integrate ESG factors into these forecasts by increasing or decreasing the company's revenue growth rate(s) by an amount that reflects the level of investment opportunities or risks.

Operating Costs, Operating Margin, and EBIT Margin

Practitioners make assumptions about the influence of ESG factors on future operating costs and either adjust them directly or adjust the operating profit margin/earnings before interest and taxes (EBIT) margin. They may forecast some operating costs explicitly but, depending on the level of disclosure by companies, may find it necessary to make adjustments to the operating margin instead. For example, a practitioner may reduce future operating costs of a company due to a variety of initiatives that will reduce the company's energy consumption and reliance on fossil fuels.

Book Value and Impairment Charge

ESG factors can influence assets' anticipated cash flow, such as by forcing long-term or permanent closure, and therefore alter the net present value of the assets. The impact is most likely to be a reduction, resulting in an impairment charge being made to bring the company's book value down accordingly, and therefore reducing not only the asset value but also the company's earnings for the year in which the noncash, one-off impairment charge is recorded on the income statement.

Capital Expenditure

A practitioner may believe that ESG factors will lead a company to decrease or increase its future capital expenditure.

Terminal Value

ESG factors could cause practitioners to believe that a company or its business line will not exist forever. In these cases, the practitioner might reduce the terminal value to a lower value or to zero, respectively.

Beta and Discount Rate Adjustment

Some practitioners adjust the beta or discount rate used in company valuation models to reflect ESG factors. This technique is ideal when there is an apparent ESG risk to the company, but it is difficult to price it into the company's valuation. One approach used by practitioners is to run a peer analysis of companies within the sector and then rank them by an ESG factor(s). The practitioner can then increase/decrease the beta/discount rate for companies considered to possess high/low ESG risk, in turn reducing/increasing the fair value.

ESG IN FIXED-INCOME ANALYSIS

Originally, corporate bond practitioners adapted the materiality/sustainability frameworks and ESG techniques used by the equity practitioners in their firms. This approach still happens and is relevant today.

More recently, ESG integration techniques applied by fixed-income practitioners have become more sophisticated; some practitioners have fully adapted their processes and analysis to integrate ESG factors.

Additional aspects should be considered when analyzing ESG risks and opportunities in fixed-income investing as compared to equity investing. Bonds come in all shapes and sizes, with differing issuer types, credit quality, duration, payment schedules, embedded options, seniority, currencies, and collateral. Bond prices are strongly influenced by fundamentals, macroeconomic factors, interest rates, and liquidity, which require a multilayered analysis of credit risk, interest rate risk, yield curve risk, and liquidity risk.

All these variables require a sound understanding of how ESG issues can affect a bond. For example, due to the long-term nature of ESG risks, short-dated bonds issued

by a company could be investible while the company’s long-dated bonds may not be, if the practitioner perceives that the ESG risk will not materialize within the next five years.

Corporate Credit Analysis

That the order of the frequency of impact of environmental, social, and governance issues on corporate bond prices and share prices is the same is not surprising. The material ESG issues for a company remain the same regardless of whether the investor is a shareholder or a bondholder. For example, health and safety remains a top ESG issue for mining companies and their owners and lenders (see **Figure 1** for examples of ESG issues analyzed by equity and corporate bond investors).

This is reflected in the approach used by some practitioners. Materiality/sustainability frameworks—a regularly reviewed list of sector-specific and/or market-specific ESG issues—are shared by corporate fixed-income practitioners and equity practitioners to identify material ESG issues. In instances where asset owners and investment managers deploy dedicated ESG teams, fixed-income and equity practitioners share this resource and use the same company ESG research. Other practitioners will adapt the materiality/sustainability frameworks used by equity teams where material issues can be different for corporate bond issuers (e.g., innovation management may be less relevant), especially when considering the duration of bonds.

Practitioners use materiality/sustainability frameworks and company ESG research in their credit risk analysis. Few practitioners have looked at the impact of ESG issues on interest rate risk, yield curve risk, and liquidity risk.

Practitioners assess the impact of ESG issues on a company’s ability to pay its debt obligations and liabilities. Their main approach is to use third-party ESG scores or proprietary ESG scores along with traditional credit analysis when making investment decisions. Some practitioners embed their company ESG research and scores into their internal credit assessments. When they do so, the ESG issues can influence credit assessments and investment decisions.

FIGURE 1: EXAMPLES OF ESG ISSUES ANALYZED BY EQUITY INVESTORS AND CORPORATE BOND INVESTORS

GOVERNANCE ISSUES	SOCIAL ISSUES	ENVIRONMENTAL ISSUES
Business integrity	Human rights	Climate change
Shareholder rights	Employee relations	Biodiversity
Executive pay	Skilled labor	Energy resources and management
Audit practices	Health and safety	Biocapacity and ecosystem quality
Board independence and expertise	Diversity	Air pollution
Fiduciary duty	Customer relations	Natural resources
Transparency/accountability	Product responsibility	Water resources and pollution
Related-party transactions		
Dual-class share structures		
Tax practices		

On a lesser scale, the impact of ESG issues is being quantified by practitioners in portfolio construction processes and fundamental credit analysis. Portfolio construction tools would examine how ESG issues are influencing macroeconomic and market factors. The impact on the portfolio is through the weighting of sectors and companies.

Through fundamental credit analysis, key credit ratios are adjusted for ESG issues. Practitioners assess these ratios to understand whether the creditworthiness of the company is deteriorating or improving and ultimately, to see the potential impact on credit ratings and credit spreads.

Sovereign Credit Analysis

As compared to their use with corporate bonds, ESG integration practices in sovereign debt are less widespread.

The current low adoption of ESG integration by sovereign-debt practitioners is due in part to the lack of understanding of how to integrate ESG issues into sovereign debt. Unlike some corporate bond practitioners, sovereign-debt practitioners are not able to simply borrow techniques and materiality/sustainability frameworks from their fellow equity practitioners, which might speed up the integration process. Extensions to existing frameworks or additional frameworks drawn up for market-specific factors are likely needed.

The lack of understanding may be exacerbated by the difficulties expressed by practitioners with sourcing ESG data on countries as compared to sourcing company data, especially environmental data (see **Figure 2** for sources of ESG data used by sovereign debt investors). This makes it more difficult for practitioners to assess the absolute and relative

FIGURE 2: EXAMPLES OF ESG DATA SOURCES FOR SOVEREIGN CREDIT ANALYSIS

Freedom House—Freedom in the World survey
Reporters without Borders—World Press Freedom Index
Forum for a new World Governance—Worldwide Governance Index
Bündnis Entwicklung Hilft—The World Risk Index
Transparency International—Corruption Perceptions Index
World Bank—Ease of Doing Business Index
United Nations Development Program—Human Development Index
Fund for Peace—Fragile State Index
Organisation for Economic Co-operation and Development—Better Life Index
International Labour Organization—labor and health and safety statistics
Access Initiative and World Resources Institute—Environmental Democracy Index
Natural Resource Governance Institute—Resource Governance Index
Yale University—Environmental Performance Index
World Energy Council—Energy Trilemma Index
International Monetary Fund—country reports
EU—country reports
US Central Intelligence Agency—World Factbook
ESG research providers
Credit rating agencies

FIGURE 3: EXAMPLES OF ESG ISSUES ANALYZED BY SOVEREIGN DEBT INVESTORS

GOVERNANCE ISSUES	SOCIAL ISSUES	ENVIRONMENTAL ISSUES
Institutional strength	Human rights	Effects of climate change
Corruption	Education and human capital	Water resources and pollution
Regime stability	Health levels	Biodiversity
Rule of law	Political freedoms	Energy resources and management
Security	Demographic change	Biocapacity and ecosystem quality
Regulatory effectiveness and quality	Employment levels	Air pollution
Accounting standards	Life expectancy	Natural disasters
Freedom of the press	Social exclusion and poverty/income disparity	Natural resources
Political and civil liberties	Trust in society/institutions	
	Crime and safety	
	Food security	

ESG performance of a market and in turn, convert the ESG data/analysis into meaningful indicators to support their ESG integration practices.

Another reason for the lower usage of ESG in sovereign credit analysis relates to the CFA Institute-PRI survey finding that suggests that ESG issues are less material for sovereign debt compared to their impact on shares and corporate bonds (see Table 2). Practitioners may believe that ESG issues do not impact sovereign debt prices and therefore ESG integration is not applicable. However, the CFA Institute-PRI survey did indicate that governance issues, social issues, and environmental issues are impacting prices (see **Figure 3** for examples of ESG issues analyzed by sovereign debt investors).

As highlighted earlier, the respondents believe that social issues more frequently affect sovereign debt prices than environmental issues (see Table 2). Practitioners are more likely to analyze social information on a market than environmental information, especially as the time scale of social issues is more aligned with the investment horizon for sovereign debt. The more-readily available social data also makes it easier for practitioners to integrate social issues into their sovereign credit analysis.

Despite these challenges, practitioners are integrating ESG issues into their sovereign credit analysis. The majority are making qualitative assessments of ESG issues through the use of third-party research and/or internal research; these assessments then inform their investment decisions. Quantifying ESG issues in sovereign credit analysis is not widespread and is practiced less than when performed with corporate credit analysis. It tends to be performed by feeding ESG research and/or scores into the credit analysis of an issuer, which can cause adjustments to credit ratings or internal credit assessments.

Another common approach to sovereign credit analysis is to analyze ESG issues through portfolio construction tools. ESG issues can then influence allocations to regions and markets, providing underweight, neutral, and overweight signals.

As well as analyzing the impact of ESG on a country's *ability* to pay its debt obligations, practitioners have used ESG information to assess a market's *willingness* to pay its debt obligation. For example, an investment manager who believes a link is present between a

market's level of corruption and its willingness to pay might use that link as justification to adjust credit ratings and outlooks that they believe do not reflect the level of corruption in those markets.

Municipal Credit Analysis

ESG Integration Practices

The sub-sovereign bond market is composed of any level of government below the national or central government. This includes relevant bodies from regions, provinces, states, or municipalities that issue bonds. The US sub-sovereign market consists of mainly municipal bonds. At approximately \$3.85 trillion in size, the US municipal bond market represents most of the global municipal bond market.³

ESG factors have long been used to determine a bond's credit quality in the municipal space and to identify financial risks in a municipality's operations or for a particular public project. The quality of the issuer's governance and management practices are typically a constant in credit analysis for any municipal bond issuer. Practitioners look at overall transparency and reporting, corruption levels, sound budgetary practices, and responsible use of debt (e.g., close monitoring of long-term pension liabilities and principal maturities, implementation of affordable capital plans, strong financial controls). They might view a management team that provides robust disclosure in a positive light relative to its peers.

Sound governance can also be assessed for those issuers who think beyond immediate budgetary needs and make investments intended to strengthen the economic success and social inclusiveness of their communities, as inclusive communities should exhibit stronger creditworthiness and lower risk for practitioners. As such, municipal borrowings that provide social benefits may offset the negative impact of temporarily weak finances.

For both general obligation and revenue bonds, chronic social and environmental problems can affect the issuer's ability to raise revenues from taxes or other types of income. For example, low high school graduation rates, high violent crime rates, lack of affordable housing stock in the community, and high unemployment rates could result in long-term credit stress. Environmental factors such as the region's air quality and associated health risks for its constituents, the quality of public infrastructure such as wastewater treatment plants, or the long-term impact of climate change can all pose potential risks to macro factors that may affect an issuer's ability to repay its debt. Overall, some practitioners find that the more a municipality's purpose or public project aligns with the environmental and social needs of its constituents, the more likely it is that it will repay the bond.

For project revenue bonds, practitioners may also integrate additional ESG factors based on the underlying use of the proceeds (e.g., giving more weight to environmental factors for electric and water utilities, to social factors for education, and to healthcare issuers).

Because of the limited coverage of this asset class by third-party research providers, practitioners often use discretion to determine materiality and integrate ESG factors through the fundamental research process. Practitioners in the municipal market may

³ SIFMA US Quarterly Highlights 1Q '18, April 2018. <https://www.sifma.org/wp-content/uploads/2018/04/US-Quarterly-Highlights-2018Q1-2018-04-06-SIFMA.pdf>

depend more strongly on credit ratings agency research, and may integrate ESG factors by expanding their view to include environmental indicators that capture local and regional resource challenges.

Structured Credit Analysis

ESG Integration Practices

In addition to bonds issued by governments and companies, the fixed-income market includes securities backed, or collateralized, by a pool of financial assets, such as mortgages, accounts receivable, or automobile loans. Practitioners are just starting to consider how to systematically integrate ESG factors into structured credit analysis, largely because ESG data coverage is less readily available for some of the transaction parties, including the special purpose vehicles that issue the securities, and the inherent complexity of assessing underlying asset pools that may run into the thousands.

The integration process typically seeks to capture risks at several levels: at the transaction level, relating to the originator/ servicer/issuer of the securities; at the “collateral” or “cover” pool of underlying assets; and sometimes, informing a view on the overall deal structure. Some practitioners give more weight to the originator, others to the credit quality of the underlying asset pool. The approach varies for different types of securitized investments depending on whether the issue is government backed, and with respect to the overall composition/asset concentration levels of the loan portfolio.

At the *transaction level*, ESG analysis plays an important role in determining the true risk-adjusted credit profile of a securitization through an understanding of the corporate governance strategy of each of the parties associated with the deal. For example, practitioners may review the lending practices of the financial institutions that are originating the securitization, prioritizing those with clearly stated guidelines for underwriting and a positive record of servicing loans, and avoiding those with predatory practices, poor risk management and regulatory compliance track records, and any conduct failings that could lead to litigation risks and other adverse consequences for loan enforceability.

Strong governance practices cover transparency of management (e.g., publicly listed companies with audited, detailed financial statement disclosures, whose management team communicates regularly with investors), executive compensation, and board independence (e.g., a diverse board with appropriate controls). Practitioners may also evaluate whether the parties are using securitization as a method of exit or risk transfer, or as a funding source in which they will continue to participate.

At the *asset pool, or collateral, level*, practitioners consider how ESG factors may affect the financial sustainability of the asset pools, such as auto loans and mortgages.⁴ Although the analysis can differ between different asset pools, the objective remains the same—to understand if any ESG risks exist that would inhibit the asset pool from performing as expected, and to accurately value those risks.

⁴ PRI 2014, Fixed Income Investor Guide. <https://www.unpri.org/fixed-income/fixed-income-investor-guide/30.article>

Depending on the nature of the collateral, ESG analysis may be given more focus. Consider these examples:

- When analyzing securities backed by power assets or power contracts, practitioners may focus on the environmental risk profile of the underlying assets (e.g., the source of power generation).
- When analyzing securities backed by commercial or residential properties, practitioners may consider environmental factors on either a specific property or a corporate level, given the increasing impact of environmental regulation faced by property owners in some markets. As such, practitioners can analyze the energy efficiency of a property portfolio in relation to standards such as the UK's Energy Performance Certificate (EPC) or the US Leadership in Energy & Environmental Design (LEED) certification program.
- When analyzing securities backed by auto loans, environmental and governance failings such as the 2015 automotive sector emissions testing deception are assessed as a material risk to the value of the automobiles in auto loan/lease securitizations.
- When analyzing securities backed by general consumer/credit card loans, practitioners tend to consider societal risks, such as discriminatory and predatory lending and aggressive and deceptive marketing practices, as material factors.

Quantifying ESG issues in structured credit analysis is limited to the extent that it helps identify securities with mispriced prepayment assumptions, which may trade at a discount relative to intrinsic value. For example, servicers that aggressively target borrowers for refinances or servicers that have streamlined procedures for refinances may be avoided, or valued less when bonds are trading at a premium. Qualitative analysis focusing on conducting thorough due diligence of parties to the transaction may ensure no red flags are present among those associated with deals, while looking through the underlying assets may assist with monitoring the performance of the deal for as long as the practitioner is invested in the security.

SECTION 3

ESG INTEGRATION IN CHINA

THE IMPACT OF ESG FACTORS ON CAPITAL MARKETS AND INVESTMENT PRACTICES: SURVEY DATA

IMPACT ON PRICES AND YIELDS

Through our global ESG integration survey, we wanted to understand how often Chinese investors consider that environmental, social, or governance issues affect share prices and bond yields in the Chinese capital markets in 2017, and how often they believe these factors will impact share prices and bond yields in five years' time (2022). Corporate governance is currently the ESG factor most impactful to share prices and bond yields, but this dynamic is set to change, according to survey respondents. Environmental factors are likely to impact share prices and bond yields nearly as much as corporate governance will by 2022, according to Chinese financial professionals (**Table 9**).

TABLE 9: THE IMPACT OF ESG ISSUES IN 2017 AND THE EXPECTED IMPACT IN FIVE YEARS' TIME (2022) ON SHARE PRICES, CORPORATE BOND YIELDS/SPREADS, AND SOVEREIGN DEBT YIELDS

	AFFECTED IN 2017	WILL AFFECT IN 2022
ESG ISSUES IMPACT ON SHARE PRICES		
Governance	34%	61%
Environmental	16%	53%
Social	18%	47%
ESG ISSUES IMPACT ON CORPORATE BOND YIELDS/SPREADS		
Governance	26%	57%
Environmental	13%	48%
Social	17%	43%
ESG ISSUES IMPACT ON SOVEREIGN DEBT YIELDS		
Governance	39%	48%
Environmental	26%	35%
Social	22%	43%

Note: Percentages represent respondents who answered “often” or “always.”

ESG RISKS AND OPPORTUNITIES

Respondents in China were asked how often ESG risks and opportunities affect share prices and bond yields in Chinese capital markets (**Table 10**). As was the case in all markets we visited, ESG risks were seen as more important than ESG opportunities. Corporate governance risks are the main risks for both shares and bonds, while social risks and opportunities are seen as more important than environmental risks and opportunities.

TABLE 10: THE IMPACT OF ESG RISKS AND OPPORTUNITIES ON SHARE PRICES, CORPORATE BOND YIELDS/SPREADS, AND SOVEREIGN DEBT YIELDS

	AFFECT "OFTEN" OR "ALWAYS"
HOW OFTEN DO ESG RISKS AND OPPORTUNITIES AFFECT SHARE PRICES?	
Environmental risks	29%
Environmental opportunities	11%
Social risks	34%
Social opportunities	24%
Governance risks	53%
Governance opportunities	34%
HOW OFTEN DO ESG RISKS AND OPPORTUNITIES AFFECT CORPORATE BOND YIELDS/SPREADS?	
Environmental risks	17%
Environmental opportunities	13%
Social risks	30%
Social opportunities	26%
Governance risks	30%
Governance opportunities	26%
HOW OFTEN DO ESG RISKS AND OPPORTUNITIES AFFECT SOVEREIGN DEBT YIELDS?	
Environmental risks	17%
Environmental opportunities	17%
Social risks	30%
Social opportunities	26%
Governance risks	26%
Governance opportunities	30%

ESG USE BY PORTFOLIO MANAGERS AND FINANCIAL ANALYSTS

To understand the investment practices of Chinese practitioners, the survey asked how often Chinese portfolio managers and financial analysts are including material ESG issues in equity and credit analysis. Very few survey respondents say that they “often” or “always” include ESG issues in their analyses (**Figure 9**). It appears that the use of ESG information to adjust valuation models is rare among portfolio managers and analysts, with most respondents answering either “sometimes” or “rarely” (**Figure 10**).

FIGURE 9: THE IMPACT OF ESG ANALYSIS ON INVESTMENT ANALYSIS

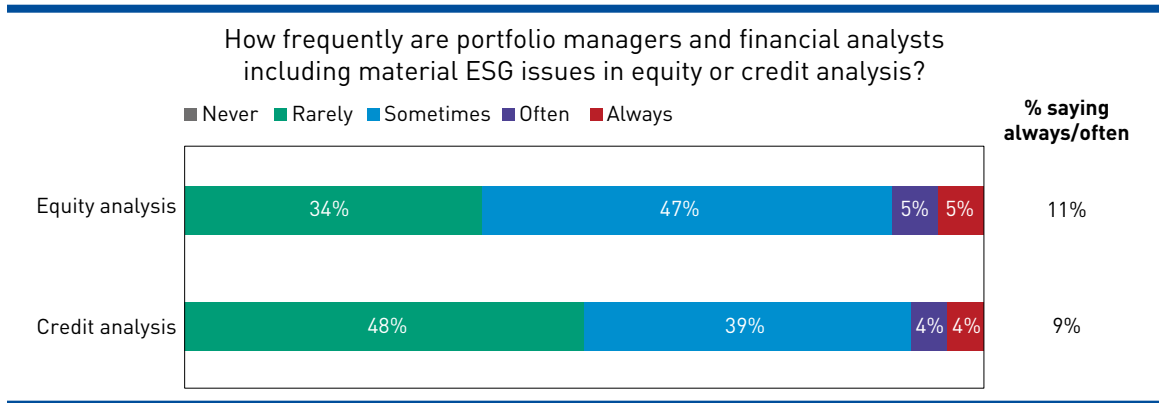
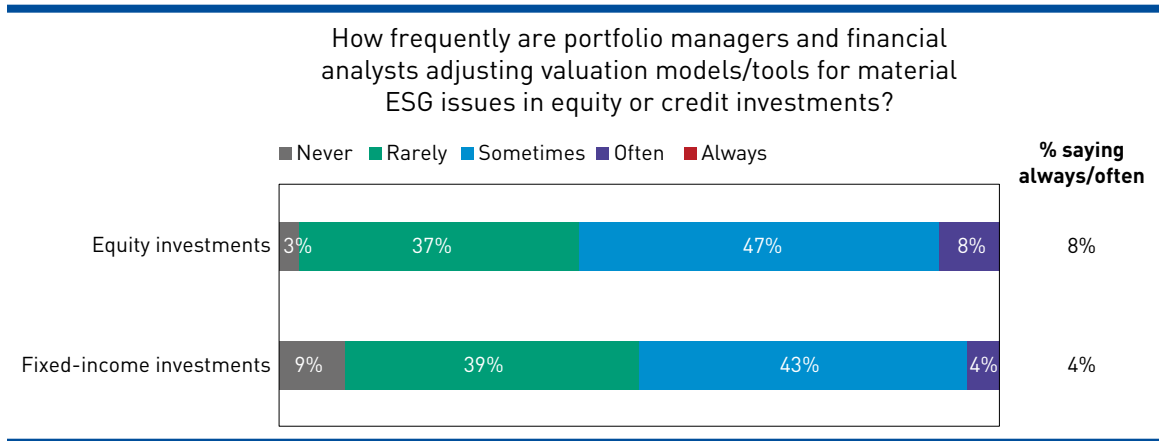


FIGURE 10: THE IMPACT OF ESG ANALYSIS ON VALUATION MODELS/TOOLS



DRIVERS OF AND BARRIERS TO ESG INTEGRATION: SURVEY DATA AND WORKSHOP FEEDBACK

CFA Institute and PRI thank The Asset Management Association of China (AMAC) for supporting our ESG Integration workshops in China. With their assistance, we were able to work with investors and analysts to better understand the current state of ESG integration.



中国证券基金业协会
Asset Management Association of China

THE STATE OF ESG INTEGRATION IN CHINA

China has seen a significant uptake of ESG investing in the last couple of years. Like other emerging markets, a major driver has been demand from international investors. Unlike some other markets, regulation has also been a major driver. Thanks to a combination of overseas demand and government policies, ESG investing is now a positive investment trend that has all major market players setting standards and/or providing training, including the government, regulators, associations, security exchanges, and investors.

Still, the level of ESG investing is low. The China market has not seen the same penetration as found in the developed markets, despite the leading Chinese investors deploying tools and techniques that can compete with advanced practitioners in other developed and emerging countries. Most Chinese investors are spending time on understanding ESG investing rather than implementing this investment approach. This is not only the case for local investment managers; it also applies to local asset owners such as pension funds and insurance companies.

Companies also have a low understanding of ESG investing. However, that is changing swiftly. The inclusion of the China A-share market in major emerging market and global indices has brought in new international investors to the market, which is traditionally dominated by domestic asset owners and retail investors. Some of these investors adhere to ESG policies and practices, which they apply to their portfolio and therefore their analysis of Chinese companies. They ask companies about their ESG performance and often educate them on ESG investing.

Another reason for the growing awareness of ESG investing by companies is new regulation on company disclosure, in particular environmental issues. This has also forced investors to analyze environmental issues, especially pollution by upstream companies, within their investment analyses and valuations. While governance issues are still the most material ESG issues for investors, environmental issues have increasingly become material.

Another reason for the growing awareness of ESG investing by companies is new regulation on company disclosure, in particular environmental issues.

RISK MANAGEMENT IS THE MAIN APPROACH

Chinese investors are incorporating ESG investing into their philosophy, practices, products, and/or processes for risk management purposes and often in combination with exclusionary screens to meet client preferences. Participants believe that ESG issues are becoming increasingly material and can impact portfolio risk and long-term return.

The evolution of ESG investing in Chinese investment firms tends to start with developing ESG products first, such as a green thematic mutual fund. However, it can quickly advance to incorporating ESG terms into the investment philosophy and ESG factors into investment research, processes, and decisions.

Often, an ESG research framework/scorecard is developed and regularly updated to circumvent the issues with data availability and quality. The framework/scorecard creates a systematic structure to their ESG integration practices that ensures portfolio managers, research analysts, and ESG analysts are integrating all sector-specific factors—traditional factors and ESG factors—into their fundamental analysis of a security. The framework/scorecards are being used as red flag indicators that highlight high-risk securities and also as the foundation for calculating individual ESG scores for securities. Some investors deploy ESG risk monitoring and reporting at the portfolio level, which can be utilized as the basis of discussions on ESG issues/themes during weekly/quarterly investment meetings.

When leading Chinese investors started implementing ESG investing within their firm, they experimented with equities first. Some have applied their learning and expertise to other asset classes. The main application of ESG investing for equity and fixed-income practitioners is as a risk management tool. While the focus is predominantly on protecting from the downside risk for fixed income practitioners, equity practitioners will also look to find alpha. Some are utilizing ESG integration techniques to identify outperforming companies to generate enhanced returns.

However, most investors are at the stage where they are focused on learning about ESG and how it is practiced. Participants believe that more investors will apply ESG integration techniques once leading Chinese investors can demonstrate strong investment performance. At the moment, there isn't a track record for ESG products, and some Chinese investors care more about maximizing returns over than sustainability.

ESG ISSUES THAT MATTER

Most investors are assessing the corporate governance of companies. The confusion around ESG investing has meant that investors do not associate their governance analysis as a part of ESG analysis. In many cases, this is the same with social issues. Health and safety, employee training, and customer relations are social issues that many investors are assessing but are not being considered as social issues. Either way, leading Chinese investors will apply a systematic approach to ESG investing, whereas other investors will analyze certain ESG issues on an ad hoc basis.

Governance risks are considered more important than environmental and social risks by both equity and fixed-income practitioners. While governance risks are material for all companies, environmental and social risks are not universal and dependent on the sector, a situation that can lead to alpha-generation opportunities. One participant said that their

evaluation methodology for governance issues focuses on value creation. Environmental and social risks are also considered to have more influence on share prices compared with bond prices, which tend to be dominated by governance risks due to the focus on downside risk.

Although environmental and social issues are considered to have a lower influence on market prices, participants believe that their materiality will increase. Several factors were attributed to this view, including the development of government policies that force companies to manage their environmental footprint more sustainably. Regulators, security exchanges, and associations are also developing rules and standards for disclosures and product labelling. The top-down pressures are increasingly turning what were once exogenous costs to companies into environmental risks managed by companies. In particular, the regulator is enforcing tight regulation on companies' management of pollution and waste, focusing on upstream companies such as materials and manufacturing firms.

Although environmental and social issues are considered to have a lower influence on market prices, participants believe that their materiality will increase.

As a consequence of the top-down pressures, more investors are analyzing the ESG performance of companies. The surge of overseas client demand generated by the inclusion of the China A-share market in major indices has also brought international scrutiny of Chinese companies, especially by investors with ESG policy and practices. Companies are being asked more questions on their ESG risk exposure by their shareholders and bondholders.

LOW QUALITY OF ESG DATA

While there are significant improvements with ESG data availability and quality, the gaps in the dataset still make it difficult to assess the most relevant ESG factors for companies. This affects the materiality of ESG factors, as it is difficult to assess their performance over time and compared to their peers without an adequate amount of historical and comparable data. Some companies will have one or two years' worth of data, which is not insightful enough to form an opinion on how well they are managing their ESG risk exposure.

While there are significant improvements with ESG data availability and quality, the gaps in the dataset still make it difficult to assess the most relevant ESG factors for companies.

Participants felt that the lack of historical data prevented any kind of modelling or back-testing on ESG factors. It will take a few years to develop an ESG dataset that can allow investors to confidently analyze possible links between ESG and investment performance and/or develop models to inform their investment decisions. The mandatory disclosure requirements in 2020 and the reporting requirement by the China Securities Regulatory Commission (CSRC) will generate a solid set of figures that can rival the best countries in time. This has already been instrumental to the reporting and management of upstream companies. As the regulatory pressure continues to rise, more and more investors will assess the ESG performance of companies, and companies will pitch themselves against other companies in their industry.

As is the case in other markets, there is variation in the level of ESG data between different-sized companies. Large-cap companies have better ESG disclosure than small-cap companies, and hence it is easier to analyze their ESG performance. This has been attributed to the larger budget that they are allocating to personnel and systems that collect and report on ESG issues. It is also attributed to the larger profile of the international companies that brings with it closer scrutiny and higher reputational risks.

The inclusion of the China A-share market in the major indices has improved the data coverage and encouraged local companies to develop databases on ESG information. Some investors use both sources. Where there are gaps in data, investors are carrying out their own ESG analysis. By developing proprietary ESG research frameworks/scorecards and analysis, they are able to feed in third-party research and scores and apply their own judgment into their fundamental analysis. Participants feel that due diligence and judgment are necessary; over-reliance on third-party research and scores with limited understanding of the underlying methodology can bring its own risks.

INCREASING AWARENESS FROM COMPANIES

Another important tool to gather material ESG information is company engagement. Leading investors are asking companies questions on environmental, social, and governance issues. As mentioned above, the inclusion of Chinese companies in major international indices has also boosted the awareness of ESG investing by companies, although most refer to it as corporate social responsibility (CSR).

As with investors, the understanding of ESG issues is low. Some Chinese companies are actively trying to work out which ESG issues are important to them and how to manage them; others treat ESG investing as a tick-box exercise or are not interested. They are also trying to understand which issues are important to their shareholders and bondholders, which is complicated by the fact that the majority of investors have limited understanding on ESG factors that are material to their portfolio.

Several investors are working with companies to help them build a better understanding of ESG investing and also on what ESG issues are important to them. Investors take this process slowly and often start with the least controversial aspects of ESG investing. Companies understand the need for good governance, and investors educate them on the benefits of independence on the board. One participant said that they do not start with requesting for more ESG disclosure. Their approach is to make suggestions, and they often find that this approach gets a positive response from companies.

Another motive for CSR reporting is regulatory requirements. Companies are publishing CSR reports. A participant said that one-third have posted CSR reports; another said 700 or 800 companies had disclosed their CSR reports. However, there is criticism of the amount of nonmaterial information in these reports. Again, participants have blamed it on the lack of knowledge on which issues are more important to investors.

EDUCATION IS ESSENTIAL

While there are leading Chinese investors that have fully integrated ESG factors and tools into their research process and are engaging with companies, the market as a whole is not so advanced. Most investors believe ESG investing is about doing good and investing in companies that are good for society. Some think that when you integrate ESG factors, your portfolio returns will be negatively affected. A participant stated that sell-side analysts do not know what ESG is.

Several participants expressed difficulties with quantifying ESG factors. This is not unusual in the developed markets. Not only does the coverage of ESG data create a barrier to evaluating the investment risks and opportunities, the limited understanding of the ESG integration techniques is preventing investors from factoring ESG information into their valuation models. Although the majority of investors adjust their existing assessments and models for ESG factors as they do with traditional factors—equally, investors are creating ESG research frameworks/scorecards and proprietary ESG scores—some participants are asking for industry-standard methodology to quantify ESG factors.

The need for education is across the investment chain, from asset owners to investment managers to companies. In particular, there is confusion around the material ESG issues. For example, an investor may consider climate change the biggest risk to a steel company, while the company is more concerned by the regulatory risk related to air pollution. To compound the problem, another investor may engage with the same company on health and safety. Such conflicting views can prevent investors and companies from managing their ESG risk exposure. Participants believe that an industry-wide framework will resolve this problem and boost the materiality of ESG issues.

The need for education is across the investment chain, from asset owners to investment managers to companies. In particular, there is confusion around the material ESG issues.

Various market players are trying to increase the transparency around ESG investing. Security exchanges and associations are running conferences and workshops on ESG investing. At the same time as discussing financial and ESG matters with companies, investors are providing training. These investors are also educating other investors. However, there is a shortage of ESG professionals in China, which can limit the success of ESG investing. A participant suggested that universities should offer courses and modules on the topic.

DRIVERS OF AND BARRIERS TO ESG INTEGRATION

Risk is by far the main driver of ESG integration for both equities and bonds, with client demand and regulation also important. The top five drivers of and barriers to ESG integration as identified by the survey are presented in **Tables 11** and **12**.

TABLE 11: DRIVERS OF ESG INTEGRATION IN CHINA CAPITAL MARKETS

EQUITY INVESTMENTS		FIXED-INCOME INVESTMENTS	
Risk management	74%	Risk management	65%
Regulation	37%	Client demand	43%
Client demand	26%	Regulation	43%
Generate alpha	26%	Fiduciary responsibility	17%
Fiduciary responsibility	13%	Generate alpha	13%

Note: Percentages represent those who thought each item was a main driver. Survey respondents could choose more than one answer.

TABLE 12: BARRIERS TO ESG INTEGRATION IN CHINA CAPITAL MARKETS

EQUITY INVESTMENTS		FIXED-INCOME INVESTMENTS	
Lack of comparable and historical data	55%	Lack of comparable and historical data	65%
Lack of company culture	47%	Limited understanding of ESG issues	48%
Limited understanding of ESG	42%	Lack of company culture	43%
Low client demand	26%	Limited amount of ESG research	35%
No evidence of investment benefits	21%	No evidence of investment benefit	26%

Note: Percentages represent those who thought each item was a main barrier. Survey respondents could choose more than one answer.

CULTURE AND SHORT-TERMISM

Conferences, training, and other forms of education were noted as essential to address the limited understanding of ESG issues and ESG integration. Culture is also considered a barrier, which is not specific to China. Portfolio managers are often driven by short-term returns. Sustainability is either a secondary priority or not considered at all.

Participants sympathize with the returns mentality as they consider it as part of a portfolio manager's fiduciary duty to meet the mandate requirements, including any terms on risk, return, and ESG. Asset owners judge their external investment managers based on how much they make for them and review their quarterly performance. They believe that once investors learn about the opportunity to reduce risk and generate alpha through ESG investing, more will practice it. One practitioner stated that investors are more short-term focused but ESG should bring along opportunities for long-term sustainability and outperformance. However, there is a need for more evidence on the investment benefits from the China financial markets.

CLIENT DEMAND AND REGULATORY PRESSURES

What is undisputed is that ESG investing is a positive investment trend in China. International investors are driving the interest in ESG investing and coming to China with ESG mandates and practices. They have strong ESG discipline and are focused on managing portfolio risk through integrating ESG factors into their research and investment process. Their presence in the market has risen significantly since the inclusion of the China A-share market in major international indices, forcing them to increase their exposure to China. The knock-on effect is that companies are now being asked questions about their ESG performance by international and local investors, which has increased the awareness of ESG investing among companies.

Top-down pressure has also been a major driver and will continue to be. Government policies and regulations have set the tone in China, and market players have followed suit. The Chinese government has developed Guidelines for Establishing a Green Financial System (GEGFS) and made it mandatory for listed companies to disclose environmental information by 2020. The CSRC has announced that, by 2020, it will require listed companies to disclose key environmental information in their annual or semi-annual reports. The Asset Management Association of China (AMAC) has been running workshops on the subject and released Green Investment Guidelines as of November 2018. Both the Shanghai Stock Exchange and Shenzhen Stock Exchange have signed up to the Sustainable Stock Exchanges initiative and have run ESG conferences and workshops.

The combination of international client demand and regulation has had a ripple effect on the investment chain. Local asset owners are researching the benefits of ESG investing and how new policies, regulations, and rules are likely to influence their investment performance. Local investment managers are responding to international investors' ESG demands and studying how to integrate ESG factors into their company holdings and portfolios. Local companies are looking into how to manage and report on their environmental footprint and trying to understand how to differentiate themselves from their peers.

ESG investing is still in the investigative stage for local investors. Insurance companies and local pension funds have shown an interest, but the demand has not been seen by local investment managers. Participants feel that once tougher regulation and rules are in place and local asset owners understand the practicalities and witnessed the investment benefits of ESG investing, this will create a huge demand for ESG products and investment managers who integrate ESG into their philosophy and research.

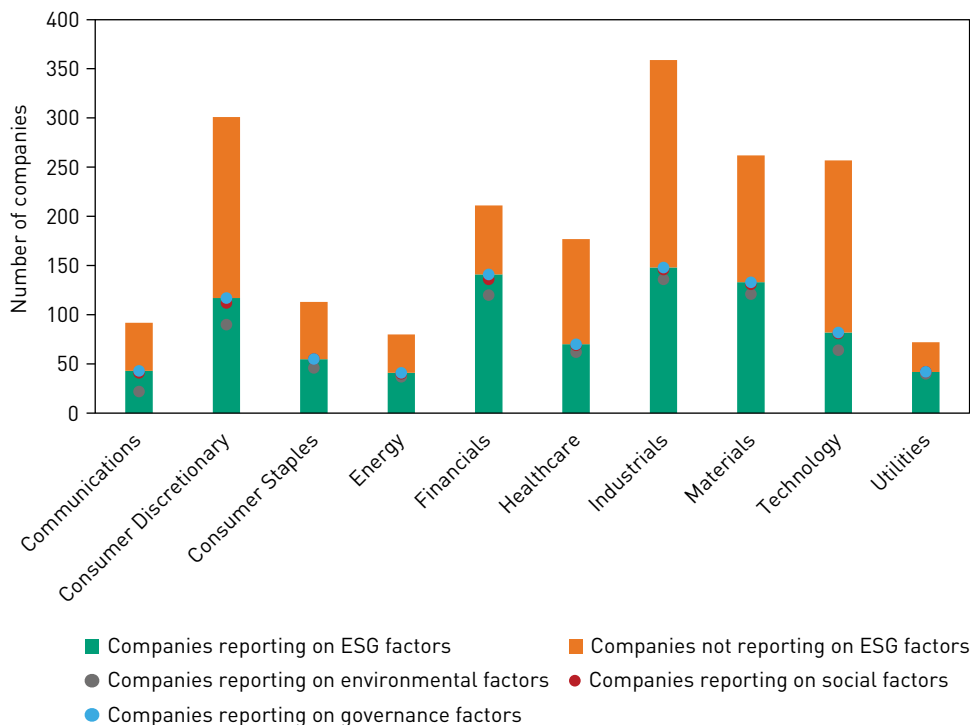
What is undisputed is ESG investing is a positive investment trend in China. International investors are driving the interest in ESG investing and coming to China with ESG mandates and practices.

TRENDS IN ESG COMPANY DATA

We partnered with Bloomberg to analyze the transparency of ESG disclosure in each market for companies with a market cap of above USD 1 billion. The information in these figures comes from the analysis of Bloomberg’s ESG disclosure scores, which are based on publicly available data; they are a score of how companies report on ESG, not necessarily how they perform. The score is based on company disclosures on different environmental, social, or governance disclosure points. Each type of disclosure is scored from 0 to 100 and then aggregated to a single environmental, social, or governance score. These are again aggregated to a combined ESG score. We have only included scores for sectors with more than seven listed companies. (For more information, see “Appendix: Methodology.”) PRI, UNEP FI, and SynTao Green Finance has recently released a complementary report entitled “ESG Disclosure in China: Recommendations for Primary ESG Indicators” that provides further analysis on ESG corporate disclosure in China.

Figure 11 shows the distribution of companies domiciled in China. Out of 1,924 primary listings, 872 (i.e., 45.32%) reported on ESG factors in 2016. When drilling down per sector, there seems to be a negative correlation between the size of the sector and the percentage of companies reporting on ESG factors. For example, the three sectors with the

FIGURE 11: LISTED COMPANIES REPORTING AND NOT REPORTING ON ESG FACTORS IN CHINA

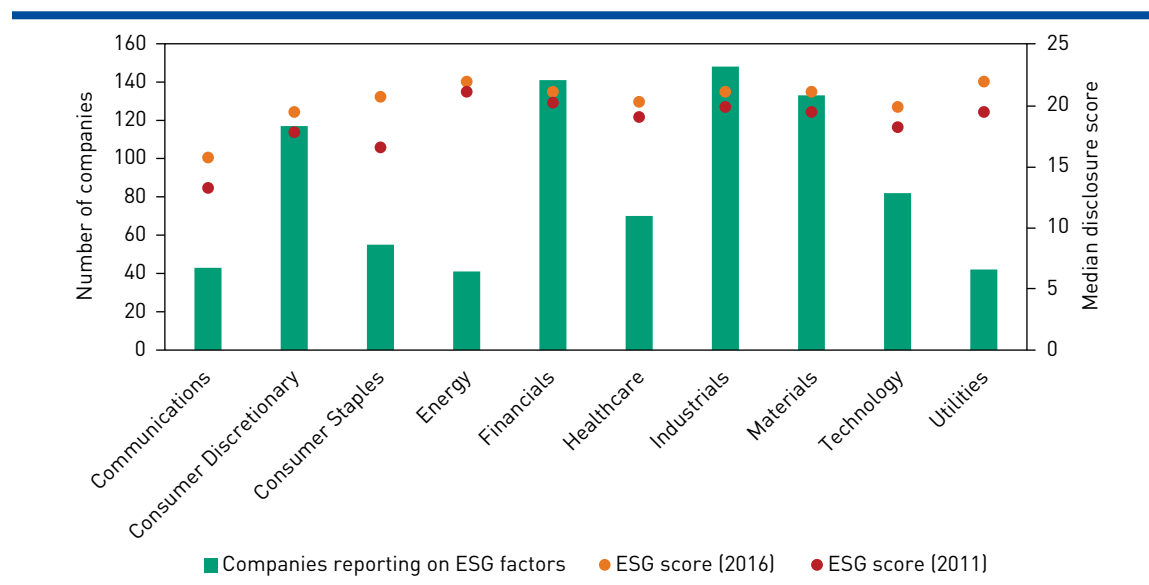


lowest coverage of ESG reporting, i.e., consumer discretionary (38.9%), industrials (41.2%), and technology (31.9%), are among the four largest sectors (consumer discretionary [301 companies], industrials [359 companies], materials [262 companies], and technology [259 companies]). At the other end, the two smallest sectors, energy (80) and utilities (72) are among the three sectors with the highest coverage with 51.3% and 58.3%, respectively. Energy and utilities being among the sectors with highest coverage is in alignment with the Japanese market, whereas surprisingly, the financial sector is the sector where the highest percentage of companies disclose on ESG factors, 66.82%, i.e., 141 of 211.

The coverage of governance disclosure equals the coverage of ESG overall. For social disclosure, the coverage is almost the same. In the consumer staples and utilities sectors all companies disclosing on ESG factors disclose on social factors, i.e., 48.7% and 58.3%, respectively. In the energy, health care, and technology sectors, only one company that reported on ESG factors did not report on social factors, which means a coverage rate of 50.0%, 39.0% and 31.5%, respectively. In the communications, industrials, and materials sectors, 2 of 43, 148, and 133 companies reporting on ESG factors, respectively, did not report on social factors. These numbers are very different for 2016 environmental reporting. Only 29.9% of companies in the consumer discretionary sector reported on environmental factors, while 38.9% of them reported on governance factors. The difference is also large in the communications (E, 23.9%; G, 46.7%), financial (E, 56.9%; G, 66.8%), and technology (E, 24.9%; G, 31.9%) sectors. The utilities (E, 55.6%; G, 58.3%) and energy (E, 46.3%; G, 51.3%) sectors are the two sectors in which most companies reported on environmental factors as compared with governance factors.

Figure 12 shows the development of the median ESG disclosure score per sector from 2011 to 2016. The 2016 median disclosure scores are similar across sectors with the

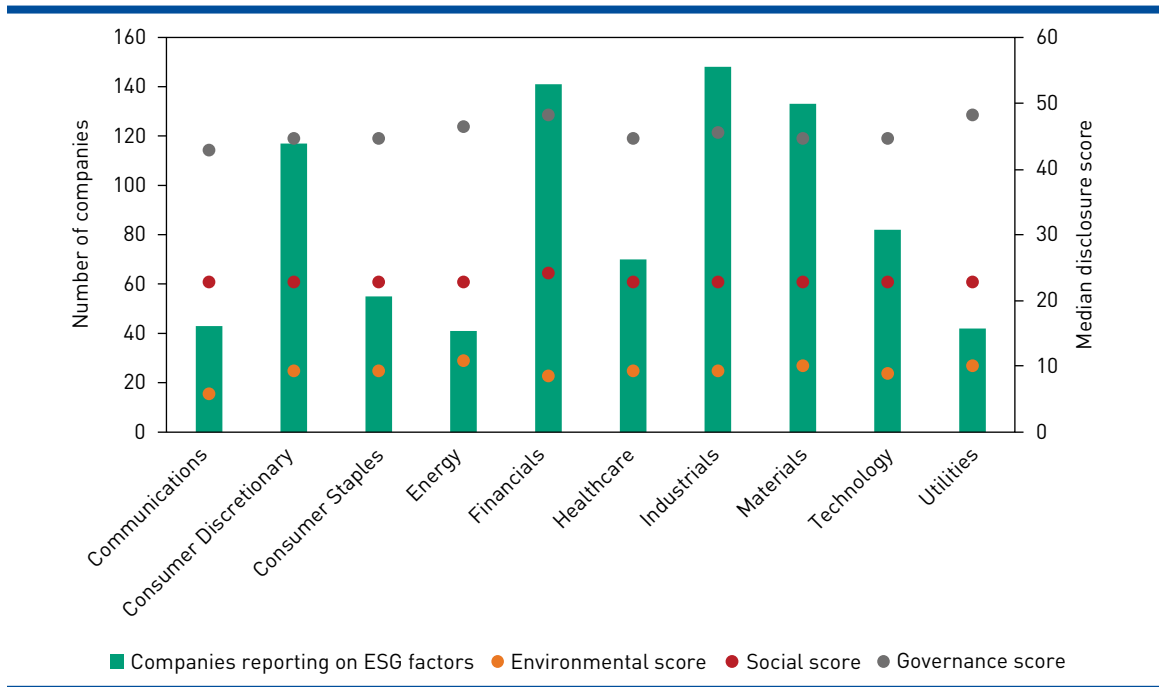
FIGURE 12: MEDIAN 2011 AND 2016 ESG DISCLOSURE SCORES FOR LISTED COMPANIES DOMICILED IN CHINA



exception of communications, for which the score was 15.70. The rest of the sectors are within a band from the lowest median ESG disclosure score being in consumer discretionary (19.42) and the highest in utilities and energy (21.90). In 2011, the energy sector was alone in the top with a median ESG disclosure score of 21.07. In all sectors, the median ESG disclosure score has increased over the five years. The largest increase occurred in the consumer staples sector, where the median ESG disclosure score went from 16.53 to 20.66 over the five years. The communications sector has also seen an increase (13.22 to 15.70), although it had, by far, the lowest median score in both years. The consumer discretionary and technology sectors, which had the second and third lowest median disclosure scores in 2016, had the third and fourth lowest in 2011 at 17.77 and 18.18, respectively. The financials, health care, industrials, materials, and utilities sectors all had median ESG disclosure scores between 19.01 and 20.18 in 2011. Overall, the median ESG disclosure scores were very similar across sectors.

Figure 13 shows the breakdown of the 2016 median environmental, social, and governance disclosure scores across sectors. Looking at Figure 13, there is clearly a lot of standardization across the three themes. In all sectors, the median disclosure score for governance is the highest, social the second highest, and environmental the lowest. For governance disclosure, the median score is between 42.86 in communications and 48.21 in financials and utilities, with the score being 44.64 in consumer discretionary, consumer staples, health care, materials, and technology. For social disclosure, all sectors except

FIGURE 13: MEDIAN ESG DISCLOSURE SCORES FOR LISTED COMPANIES DOMICILED IN CHINA IN 2016



financials have a median disclosure score of 22.81. The financial sector has a slightly higher median score of 24.17. In the bottom, the median environmental disclosure is also fairly converged, with communications being the lowest scorer with a median disclosure score of 5.81. The rest have scores ranging from 8.53 in financials to 10.85 in energy. Four sectors have a median environmental disclosure score of 9.30; these are consumer discretionary, consumer staples, health care, and industrials.

Overall, the proportion of Chinese listed companies disclosing on ESG factors is less than half. However, the companies that do report on ESG factors mostly report on both social and governance factors and also, to a large extent, environmental factors. The median ESG disclosure scores across sectors do not vary much, and this is the same for median environmental, social, and governance disclosure scores broken up by theme. This suggests standardization of disclosure. The median social scores were especially similar across sectors.

ROUNDTABLE INTERVIEW ON ESG INTEGRATION IN CHINA

HOW PREVALENT IS ESG INVESTING IN CHINA?

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

ESG integration is becoming a popular trend. Compared to the developed markets investors, who are more mature in terms of practicing ESG investing, Chinese investors are still at the early stages.

Currently, most investors in China are focusing on understanding how to practice ESG investing rather than implementing. Roughly 80% or 90% of Chinese investors haven't come up with the structure for ESG investing. Only a few asset managers in China are applying ESG investing.

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

ESG investing is on the way of becoming a mainstream investment philosophy in China. More investment managers are realizing the tendency and the importance of ESG investment, and we believe that they will ultimately adopt this philosophy. Some pioneers have already started ESG study for a while. And so far, our company has taken a top down approach to integrate ESG into our investment philosophy and we launched our first ESG product in 2018. However, the current level of ESG investing is relatively low compared to Europe, the United States, and other Asian countries such as Japan. Most of the institutional investors are still in the process of understanding the meaning of ESG rather than implementing ESG in the investment procedure. Yet, it is believed that with the evolution of Chinese market, the proportion of the investors who adopt ESG philosophy would increase rapidly in the near future.

Robert Li, MBA, China Asset Management Co., Ltd.

Depending on the definition of ESG investing and asset classes, Chinese-based investors implement varying degrees of ESG investing in their investment processes. In general, Chinese investors are subject to sanction lists as provided by their respective regulators. Most have yet to adopt global-focused, norm-based investing. On the other hand, most portfolio managers and analysts agree that corporate governance is an important aspect of nonfinancial analysis when conducting research. Areas such as non-arm's-length transactions, stock pledges by key shareholders, and accounting frauds are of key focus.

WHAT ARE THE MAIN ESG ISSUES FOR CHINESE INVESTORS?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

Chinese investors are paying more attentions on environmental and governance issues at the moment.

For the environmental issues, this is because following the 19th National Congress of the Communist Party of China in 2017, China has taken a top-down approach to governance on environmental protection. Its approach includes treating pollution prevention as one of the three national critical battles, establishing a long term supervision mechanism to monitor the environmental performance and so on. From these initiatives, we can conclude that environmental protection has become a “new normal” facet of China’s economic growth, and that this trend will continue for a long time. Hence, a company’s environmental performance would play an important role in the operation of the business.

On the other hand, the quality of the corporate governance is one of the decisive factors of the future performance of a company. A good corporate governance structure will not only ensure the growth of the company but also to ensure the organization is managed in a manner that fits the best interests of all. And as a result, a good corporate governance could be able to lead to a better outcome on share price.

Robert Li, MBA, China Asset Management Co., Ltd.

The most important ESG issues are corporate governance in nature, as these practices and the quality of management would have significant implications on how the company is run, and whether the company is long-term focused. Over the past two years, there has been an increasing focus on environmental issues and social issues. New and tougher regulatory standards and impact on financial performance are driving the change. We believe this is generally in line with progress in the developed markets, where environmental standards and social impact are becoming a major component of corporate initiatives.

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

The answer is different depending on which sector and which strategy the investor is focusing on, as well as data availability in the market. If there is no data on a particular ESG issue, then it is very difficult to measure the ESG issue and price it into the market.

Currently, governance issues are more important and valuable for our investment decisions; meanwhile, environmental issues are becoming emphasized by the regulator. The valuation methodologies for the two sets of issues are different. We regard governance issues from a value-creation perspective and environmental issues from a risk management perspective.

For environmental issues, pollution is more important than carbon emission in China. Although carbon emission data is extremely important for European investors, but not yet

practical for China A-share market. The Chinese regulator is enforcing tight pollution regulation on companies, especially upstream ones. Any material issues related could become an investment risk. Therefore, we pay more attention to pollution data and regulations.

ARE COMPANIES BECOMING MORE AWARE OF ESG INVESTING? DO THEY RESPOND TO YOUR QUESTIONS ON ESG ISSUES?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

Following the trend of ESG investment rising among the institutional investors, more companies start to hear about ESG. However, after communicating with some listed companies, we found there are still quite a few companies who are not familiar with it. It appears that some companies are managing their ESG performance but are not aware that what they're doing is part of ESG. For example, companies are not considering certain environmental regulations that they must adhere to and the transitioning of nonrenewable assets to renewable assets as ESG investing.

Besides, in respect of the ESG engagement, since most of the companies are in the very early stage of understanding ESG, we have decided to start raising questions on those ESG issues which they are capable to answer, such as how much effort they have put to manage the environmental pollution. When the relationship with the companies are built and ESG investment becomes more mature in China, we will go deeper on ESG issues.

Robert Li, MBA, China Asset Management Co., Ltd.

We have engaged with five companies on sustainability issues, including environmental, social, and governance. From our experience, Chinese companies have heard of corporate social responsibility, but not necessarily ESG investing. Their primary motivation comes from regulatory requirements. Given the current regulatory efforts and pending disclosure requirements, many companies are beginning to learn about these concepts and practices.

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

Many companies do know about ESG investing. It is because MSCI included China A-share market into the emerging markets and global indices, and they have released ESG ratings for companies within these indices.

While Chinese companies are paying attention to ESG issues, their awareness is still relatively low. For example, when we engaged a company to disclose its emission targets, it took time to explain behind reasons. We try to raise the companies' awareness on ESG issues. The response is positive and they do agree that they should manage their environmental impact and try to include our suggestions in the next year annual reports.

CAN YOU TALK ABOUT THE CHALLENGES WITH ESG DATA DISCLOSURE?

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

Overall there is lack of structured good quality ESG data disclosure in China. 700 to 800 listed companies have disclosed their CSR reports, but investors find many information disclosed irrelevant for the moment. Companies have not realized what issues are more important to investors and what information they need to disclose to better reflect their ESG performance. The data quality of large-cap companies is better than small-cap companies. Large-cap companies, who can spend more resource on gathering, monitoring and disclosing ESG data, are easier to be evaluated.

I do believe that companies will disclose more ESG data. First, the regulators are moving forward to forcing companies to disclose ESG data now. Based on the *Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public* released by China Securities regulatory Commission (CSRC) in Dec 2017, listed companies, especially upstream companies such as steel and manufacturing firms, are forced to disclose their environmental data due to increasing regulation pressure. Second, more investors are paying attention to the ESG performance of companies because it can differentiate themselves from their peers from investors perspective. We, as investor, have to work together to request for more useful ESG data disclosure.

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

The key challenges with ESG data disclosure are the availability and the quality of the data. The availability of ESG data started quite late in China compared with other markets. Only one-third of the companies are issuing CSR reports. Moreover, some specific data such as environmental data is compulsory for some sectors and companies but not all of them. Therefore, we have an incomplete dataset of ESG company data.

On the other hand, most ESG data we use are purchased from international companies but they can only provide the ESG data on companies covered by FTSE and MSCI indices. The coverage is relatively low comparing to the whole market. Even though, we have some local index companies who are starting to build up their ESG database, the problem is that we do not know what the methodology is behind their ESG ratings and there is no third party to ensure the quality of the data. Thus, the quality would be another challenge we are facing.

Robert Li, MBA, China Asset Management Co., Ltd.

We believe the key challenge is the lack of comparable historical data to perform extensive analysis. There is a lack of comparability, transparency, and a lengthy track record. We believe that after the mandatory disclosure requirements in 2020, there will be enough data for further analysis within a few years, after which ESG investments will be based on solid ground and investor adoption should improve.

DO CHINESE INVESTORS THINK OF ESG INVESTING AS EXCLUSIONARY SCREENING OR FROM A RISK/RETURN PERSPECTIVE?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

I think it is both. Investors in China think of ESG investing as a combination of exclusionary screening and utilizing ESG analysis to identify outperforming companies and control risks.

In our own experience, we have incorporated ESG factors in our equities department to take advantage of ESG investing for risk-aversion purposes. Moreover, we are in the process of utilizing ESG practices to find alpha and identify outperforming industries and companies.

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

Chinese investors think of ESG investing as exclusionary screening and ESG integration. It is the same for our firm. We integrate ESG factors into the risk management process to generate alpha. This can help us improve our investment quality. If we look back over the longer term, we can see that ESG investing can generate profits. However, most Chinese investors think of ESG as doing good and investing in companies that are good for society.

IS COMPANY CULTURE A BARRIER TO ESG INVESTING?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

I do believe that there is a company culture issue with regard to ESG. Most asset managers still prioritize excess returns only, for instance, most portfolio managers' bonuses are simply bound up with investment returns. The result would be the managers pursue better outcomes on data only rather than concern about the need to be responsible for society. This culture is not just affected by the asset management companies, but the asset owners will also judge investment managers based on whether their products can generate strong returns instead of if their products will be helping society. Thus, education is necessary to explain what ESG is and how it can benefit them through long-term investment returns, which is what we are trying to do now. Consequently, company culture is a barrier across the investment chain.

WHICH INSTITUTIONAL CLIENTS ARE ASKING FOR ESG INVESTING? IS THERE ANY RETAIL DEMAND IN CHINA?

Robert Li, MBA, China Asset Management Co., Ltd.

The current client demand for ESG products is primarily from international investors. We are conducting investor education for domestic investors to improve awareness. Despite the lack of data, ESG investing makes sense intuitively, but extensive research and education is still needed to demonstrate effectiveness in the domestic markets. As investment horizon of domestic investors, both for institutions and individual investors saving for retirement, ESG will play an even bigger role in the ability to deliver long-term sustainable returns.

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

International investors from Europe and the US brought ESG investing to the market. After MSCI had included Chinese A market into their indices, there was a surge of interest from international investors to increase their exposure to China's economic growth. Some of these investors had an ESG policy and strategy that require local investment managers to adhere to.

Otherwise, both the local pension funds and insurance companies are supportive of ESG investing, so they're pushing investment managers to create more ESG products. ESG products have features of higher returns and lower volatility, which aligns with their investment philosophy.

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

Current demand is mainly from international investors, like institutional clients from Europe and US. In the Chinese market, it will take time for the insurance companies and pension funds to demand. They are likely to monitor the investment performance of ESG products first, assess the advantages and disadvantages, and then make a decision.

Institutional investors are more interested in ESG investing than retail investors. To cater for the potential demand from retail investors, , we are also positive for it.

HOW IS REGULATION DRIVING ESG INVESTING IN CHINA?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

We still don't have any formal regulation to force all asset managers to integrate ESG concepts. However, we believe that to mainstream ESG investing, the regulator and associations will need to put more pressure on investors to deploy ESG practices and on companies to

manage their ESG risk exposures. The regulations will be able to facilitate ESG investing in China in some way. If we take environmental regulations as an example, we could tell that the regulations have not only driven the investment managers to take environmental performance as a criterion but also pushed those listed companies to think about their environmental impacts and disclose environmental data while running the business.

Robert Li, MBA, China Asset Management Co., Ltd.

The forces driving ESG awareness and integration in China are different from those in most developed markets, where asset owners were the primary drivers. The top-down approach to drive ESG investing in China prompts faster adoption and expedites the process for companies to disclose ESG-related data points for analysis. With this information, asset managers would be able to educate the investors on the benefits of ESG investing and insinuate positive change in the market place.

ARE THERE OTHER MAJOR MARKET PLAYERS PROMOTING ESG INVESTING?

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

To provide education on ESG investing, stock exchanges have put on some conferences and workshops on how to integrate ESG into our investments. AMAC is also running workshops. The conferences and workshops are important as ESG investing is still quite new to investors, and therefore training is necessary to guide institutional investors who are not familiar with ESG investing and keen to understand how to implement it into their processes and products.

While conferences and workshops will build awareness and understanding, regulations and standards will accelerate ESG investing and date disclosure. It is believed that if stock exchanges could draft more strict regulations and standards on ESG performance, it would improve both quality and quantity of ESG information released by the companies. This will lead to better practice of ESG data. Additionally, if associations could intervene and form compulsory standards and codes, it would encourage all investors adopt ESG investing into their philosophy and process.

WHAT DO YOU THINK IS NECESSARY TO CONTINUE THIS ESG INVESTMENT TREND IN CHINA?

Yixi (Wilson) Wei, E Fund Management Co., Ltd.

International investors introduced the ESG topic to China. They are the primary driving force for ESG investing in the country. Domestic clients and regulators will be the next driver of ESG investing. Currently, more clients are asking questions about ESG investing

and the regulators are also trying to shift the market toward this direction. These are good signals for the future of ESG investing in China.

Ms. Xu Yan, CIO, Hwabao WP Fund Management Co., Ltd.

The first driver would be the marketing and education. There are still quite a lot of investors who aren't familiar with ESG investing. Some investors think that when you integrate ESG factors into your portfolio, your investment performance will be negatively affected. Therefore, investors should be better educated about the benefits of integrating ESG.

The second driver is support from the government and associations. We believe that if a top down approach could be implemented, the ESG philosophy will expand more rapidly and accepted by more investors. and when there are more investors integrating ESG into their investment process, it will lead the listed companies to act better in their ESG performance, which will also benefit the whole society.

Robert Li, MBA, China Asset Management Co., Ltd.

It is necessary to have a clear demonstration of performance improvement and other forms of value-add to accelerate growth in ESG integration in China. Regulations (not just security regulation), market behavior, and investment practices need to coordinate and show that ESG does not compromise investment returns. The additional inflows driven by MSCI and FTSE Russell's inclusion of Chinese equities, and the high awareness of international investors as part of this conversation, will also drive the growth in China.

INTERVIEW WITH A CHINESE MAJOR MARKET PLAYER: HARVEST FUND MANAGEMENT

Interview with Thomas Kwan, Chief Investment Officer of Overseas Investment at Harvest Fund Management about ESG integration in China.

What does ESG integration mean to you?

The core of ESG integration in investment is to integrate environmental, social and governance considerations into investment decision making processes and ownership practices. In the context of the many rising global environmental and social challenges such as climate change, environmental pollution, and an aging population, we believe we have a role to play in pivoting capital to companies and technologies that can address these issues in the long term, so as to support the sustainable growth of our economy and society. This is our inner driver to do ESG integration. At the same time, it is in line with our investment philosophy that ESG factors are economic in nature and can offer a more holistic and forward-looking view of a company's long-term prospects and sustainability. Thus by integrating material ESG factors, investment managers can manage ESG risks and opportunities and generate better risk-adjusted returns in the long term.

We believe the foundation of a successful ESG integration is in-depth understanding of ESG factors in investment and how they materialize in different time horizons. This requires us to develop understanding of the industrial competitiveness, corporate strategy, governance, and their capability to manage long-term intangible ESG risks and opportunities. Hence, we emphasize fundamental ESG analysis and have brought in experienced ESG specialists to work with investment analysts and portfolio managers to decipher financially material ESG risk and opportunity factors.

In fact, taking environmental, social, and governance considerations into account in investment is not new to China's asset management industry, though the term ESG integration is. We've seen that large institutional investors like us do consider some ESG factors in investment to some extent and on an ad-hoc basis. However, systematic and holistic ESG integration into investment processes is still rare in China. We believe what is needed by China's institutional investors is to integrate ESG factors systematically throughout the investment processes, in particular to formulate a holistic ESG research framework with local granularity to better capture risks and opportunities. From our own experience, holistic ESG integration indeed adds value to our fundamental-driven investment approach.

How do you integrate ESG data into your investment processes? Is it across different asset classes, i.e., equity, fixed income, private equity, infrastructure, etc.?

We have developed a proprietary ESG research framework, which empathizes on profiling the governance structures and performance of all companies, but also includes

material environmental and social opportunities and risks based on industry characteristics and investment relevance. By utilizing both external and internal ESG data, we profile material ESG risks and opportunities of companies in our investment universe, which our investment analysts and managers refer to when making their own judgement on how these risks and opportunities materialize in different time frames.

Risk monitoring is another feature in our ESG investment process. Besides ESG portfolio reporting, ESG-related controversies are also flagged in a timely manner for PMs to manage event risks. We are also working with our postdoctoral research station to develop internal artificial intelligence (AI), more specifically text mining capabilities, to actively monitor ESG events and risks. We hope the output of this project could also be integrated in our investment processes over time.

ESG integration is carried out across different asset classes at Harvest, mainly equity and fixed income. But our approach in integrating ESG factors in equity and fixed income varies. For example, due to the downside risk protection feature of credit analysis, governance is rather dominant compared to other ESG factors, and sometimes has veto power in determining the investability of bonds. For equity, the relative materiality of E/S/G issues varies by sector and sometimes by business growth cycle. So, the equity analysts or portfolio managers may weigh less on governance (of course still meeting our level of comfort) for a particular industry or company than on their environmental and social aspects. The different investment time frame between equity and credit investment also may result in different levels of materiality of ESG factors.

Though ESG assessment framework for credit and equity is largely the same, in particular for listed entities, some adaptations for credit are further required. For example, the credit governance framework is slightly modified to address a focus on ownership, transparency, and management quality. Credit ESG analysis is more challenging for small issuers due to lack of disclosure, but our qualitative analysis addresses these challenges in our framework.

Please give an example where ESG factors impacted its investment decisions.

A direct example is that our investments require a minimum level of comfort for governance over invested companies. Companies with high stock pledges and poor governance (e.g., ownership concerns) are excluded systematically in some of our strategies that have a high governance threshold.

Active portfolio managers may interpret ESG risks and opportunities differently, and make different investment decisions. Our ESG team discusses material ESG issues, with our active portfolio managers on a daily basis, taking into account of the time horizon within which these issues could materialize. We want to make sure material ESG angles and risks are sufficiently acknowledged and debated by portfolio managers. For example, we have developed a system automatically monitoring all environmental violations and fines issued by relevant regulatory bodies on all listed companies, and material and severe cases are alerted to portfolio managers and analysts in real time for risk prevention purposes.

We regularly discuss industry and company-level ESG issues with our relevant analysts to highlight investment risks and opportunities. An example would be we highlighted to our investment team the increasing compliance costs and reputational risks on account of

privacy and data security issues facing the internet software and services industry. We also highlighted companies that face particularly high risks in this aspect, which have resulted in analysts' adjustment to their investment recommendation and thereafter the model portfolio weights.

What techniques and tools have you used to promote ESG integration in your firm?

Our senior management endorses ESG integration across our investment functions. Our ESG team first established a proprietary ESG research framework to address the lack of corporate ESG disclosure and unique cultural and ESG regulatory developments in the local market.

We believe in-depth ESG research and integration requires participation from industry analysts and portfolio managers. On the security level, the ESG team works closely with our investment analysts to provide in-depth ESG assessment and rating. On thematic research, the ESG team is rather independent but takes the investment team's view into consideration, particularly when it comes to investment horizon and materiality. On the portfolio level, we focus more on risk monitoring that highlights high-risk investments and discuss improvement opportunities together with portfolio managers regularly.

Company engagement is another tool for us both to communicate our ESG demand and sustainability standards to investee companies and to bring our portfolio managers to the table for ESG discussion with company management. By engaging companies together with our industry analysts and portfolio managers on ESG issues, our investment team can get a vivid idea of a company's long-term value creation vision and strategic planning capabilities.

Incorporating ESG data into our online research platform is also part of our group-level technology innovation and digitalization strategy at Harvest. The platform will make ESG data and recommendations accessible to investment as a research tool and risk management tool, leveraging our ESG framework, data, and insights contributed by both our internal research and external parties.

Building an ESG and responsible investing culture is an ongoing process. Our ESG team also leads the internal education and awareness-raising efforts. Our regular awareness-raising activities include annual ESG consultation with an internal investment team, quarterly ESG strategy meetings with the investment committee, monthly ESG training on ESG issues for the research team, weekly circulation of ESG newsletters featuring ESG trends and research, etc.

How do you see ESG integration develop in China over the next five years?

From process to impact and vice versa: local asset managers to become more active in developing ESG investment strategies and thematic funds for China A-share investors, which will allow investors to channel their portfolios and make an impact to contribute to sustainable development.

A more active role from owners of assets like insurance, sovereign wealth funds and pension funds can be expected driven by policy and peer pressure; however, performance of ESG investment strategies is still one of the main doubts and questions for local asset owners considering wide adoption of ESG.

More local large asset managers will follow suit to more formally integrate ESG factors into the investment process driven by client demand, policy development, and peer pressure.

There seems to be great momentum behind ESG integration in China. What do you think is necessary to accelerate this growth in ESG integration in China?

Leadership from large asset owners in China in promoting responsible investment. With substantial power in the asset management industry in China, these big names are expected to take a leading role and pass the requirements down to asset managers.

Clearer and implementable guidance from regulators. Guidance is needed that focuses on integrating ESG factors in the investment process.

Data infrastructure. Regulators should work on improving ESG reporting by listed companies; mandatory reporting framework and clear guidance are expected.

ESG human capital development. The shortage of the ESG talent supply is becoming a bottleneck for China's asset management industry to promote ESG investing. The government and universities should nurture more ESG students and graduates, and investment companies should offer better career development and incentives to attract and retain ESG professionals.

INTERVIEW WITH A CHINESE MAJOR MARKET PLAYER: ASSET MANAGEMENT ASSOCIATION OF CHINA

Interview with Hua Yu, Board Director at the Asset Management Association of China and Managing Director, Morgan Stanley Investment Management, about ESG integration in China.

How do you define ESG integration?

ESG integration is the systematic inclusion of ESG factors into the firm's decision-making processes. The intensity of ESG integration may vary, but any kind of ESG integration requires the setting of clear ESG goals and an evaluation system. ESG goals detail not only what ESG factors the firm considers while making decisions, but also how the factors are to be considered. For example, the most basic ESG integration effort includes establishing a list of non-ESG stocks based on ESG factors for negative screening, while a more sophisticated effort may include constructing ESG ratings system as a part of equity research to more deeply incorporate ESG factors into fundamental analysis; the firm could even go so far as to establish protocols for stewardship.

Once goals have been set, there needs to be an evaluation system to provide reflection and transparency. This is most easily achieved in the form of a periodic ESG report, which may be standalone or a part of the firm's annual or quarterly reports. For mutual funds, it may also be prudent to include an ESG report or review as a part of the products' period reports. The reports should clearly detail the firm's ESG integration efforts, including any quantitative or qualitative impact that the efforts have had on portfolios, as well as any obstacles or difficulties that arose. Any changes to the firm's ESG integration effort should be reported, with justification and expected outcome. For example, a firm may disclose efforts to include ESG momentum considerations into its ESG ratings system, deepening selection criteria and possibly expanding the investment scope at the same time.

How is ESG integrated into the investment process at Chinese firms?

Chinese asset management firms are actively integrating ESG factors into their investment decision making process. On the mutual fund front, firms are integrating ESG factors into their fundamental analysis framework for both equity and fixed-income investments. Some private equity (PE) firms are not only actively setting up proprietary frameworks to systematically integrate ESG factors into their investment process, but also exploring stewardship.

In practice, ESG integration may be broken down into initial filter, due diligence, investment decision-making, and postinvestment management. During the initial filtering phase, the firm must classify ESG problems and identify ESG risks and opportunities. Once the initial filter has been completed, the firm must conduct due diligence

and further evaluate ESG risks and opportunities to ensure investment decision-making is fully informed. During this phase, it may be necessary to consult external ESG experts. After full consideration, an ESG action plan should be set. During investment decision making, the action plan is executed and ESG factors are incorporated into the process. Firms that have stewardship protocols should actively communicate ESG expectations with companies in the portfolio, setting ESG expectations and plans for achieving ESG goals. Finally, during postinvestment management, the implementation of the ESG action plan is to be evaluated and recorded, and later disclosed as an ESG report to investors.

As an example, CITIC PE sets different ESG focuses for different industries, sets further ESG requirements for companies it invests in, implements plans for them to achieve ESG goals, discloses annual ESG reports, and even goes so far as to ensure the ESG management system it established can persist after it exits.

What do you see as the main drivers of ESG integration?

In China, the ESG integration effort is primarily top-down, with the government and regulators strongly supporting ESG integration.

The central government has repeatedly emphasized ecological and environmental protection and sustainable development. Just last year, in July 2018, at the Eco Forum Global Annual Conference in Guiyang, the congratulatory letter from the head of government established a conviction that “lucid waters and lush mountains are invaluable assets.” More recently in December 2018, the Green Finance Committee (GFC) of China Society for Finance and Banking and the City of London’s Green Finance Initiative (GFI) jointly published “Green Investment Principles for the Belt and Road” (GIP), aiming to incorporate low-carbon and sustainable development into the Belt and Road Initiative. This national goal of establishing a green financial system is a very strong driver for ESG integration.

In the asset management industry, the Asset Management Association of China (AMAC) has actively promoted ESG investing, conducting industry research, hosting seminars, and providing training sessions. Regulatory action such as “(Trial) Guidelines on Green Investment” issued in November 2018 is a major driving force for ESG development, urging and facilitating ESG integration in asset management firms.

What do you see as the main barriers to ESG integration?

Currently, ESG integration efforts are hindered by a lack of information and experienced personnel. Effective ESG integration requires information infrastructure beyond a firm level, including regulatory reporting standards, data integrity standards, and transparency standards, all of which regulators and market participants are working on. The drive for ESG integration is also fairly recent, and therefore there are few experienced personnel. However, Chinese firms are proactively making up for shortcomings by drawing on international experience. Firms are relying on expertise and advisory services of international firms and experts to develop and operate their ESG-related products and processes. Currently, there are 18 UNPRI signatories from China, 11 of whom became signatories in 2018, and there are a lot more who are in the process of becoming signatories just in the fund management industry alone.

What impact are ESG issues having on equity analysis/credit analysis?

The government's systematic promotion of ESG integration has increased the amount of information available for equity analysis. Under the backdrop of the government's determined effort to promote ESG, especially environmentalism, the ESG disclosure requirements for companies increase transparency and allow for better analysis of risk and opportunity. CSRC's *Guidelines on Annual Report Content and Format* requires environmental disclosures, and both the Shanghai and Shenzhen stock exchanges (SSE and SZSE) have joined the Sustainable Stock Exchanges Initiative and issued guidance to listed companies on reporting ESG-related information. As such, equity analysts are able to gather more information and make more informed analysis, including policy risks or potential regulatory action on companies, such as when companies listed on these stock exchanges with serious pollution violations were investigated by the stock exchange, CSRC, and the Department of Environmental Protection, resulting in partial suspension of the company's production and arrest of some senior personnel.

However, there are still problems, including an as-yet imperfect information infrastructure and a lack of unified standards. Currently, though there are reporting requirements, there are not reporting standards, and the content has little comparability between peer companies, as most information is in the form of descriptions and less quantitative indicators. As such, the impact of ESG issues on equity analysis will become more apparent as the information structure matures. The China Association for Public Companies is taking the initiative to set up ESG rating standards.

On the credit end, ESG issues have always been a source of risk. Any violations, including environmental ones, set issuers up for litigation and/or penalties which may affect bond prices or even lead to default risk. Similarly, corporate governance issues, including accounting that lacks transparency or poor management, have always been considerations in credit analysis. Especially now that the government is focused on ESG, companies face increasingly heavy penalties for environmental violations or poor corporate governance. Compounded with the fact that a regulatory focus of the past two years has been breaking "rigid payment," credit analysts have to be increasingly aware of ESG issues and their impact on different regions, industries, and companies.

The green bond market has developed a great deal in China in recent years. Can you tell us a bit about the current state of green bonds in China?

Since the establishment of China's Green Finance Committee (GFC) in 2015, China's green bonds market has developed rapidly. Climate Bonds Initiative data shows that, regarding green bonds issuance around the world that adhere to international standards, China's global ranking in terms of green bonds issuance rose from 8th in 2015 (less than 1bn USD) to 1st in 2016 (23bn USD), 2nd in 2017 (22.5bn USD), and 2nd again in 2018 (30.9bn USD). According to GFC data and adjusted for exchange rate at the time of issue, domestic issuance values were RMB 30.6bn in 2016 (approximately 30.6bn USD), RMB 304.5bn in 2017 (approximately 30.5bn USD), and RMB 322.3bn in 2018 (approximately 32.23bn); the difference is accounted for by the differing standards between domestic standards and international standards for "green bonds." From the significantly shrinking difference, we observe that China's domestic standards are rapidly converging on international standards.

The rapid expansion and improvement are the result of a national effort to raise environmental awareness, which has permeated through the strategic decision-making of the government and policies of regulators. It is easy to observe a top-down effort starting from 2015's *Integrated Reform Plan for Promoting Ecological Progress* published by the CPC Central Committee and State Council. The government and regulators have quickly established a regulatory framework guiding the development of the green bond market and the green finance system as a whole, including but not limited to 2016's *Guidance on Green Bond Issuance* published by the National Development and Reform Commission, *Guidance on Building a Green Financial System* issued jointly by seven ministries (including the central bank), and *Notice on the Pilot Program of Green Corporate Bonds* by SSE, 2017's *Guiding Opinions on the CSRC on Supporting the Development of Green Bonds* by CSRC, as well as the establishment of various green finance reform and innovation pilot zones.

The current state of the domestic green bonds market is one of increasing scale and depth. According to GFC data, the volume of green corporate bonds and green debt financing instruments has grown steadily, showing the increasing initiative taken by corporate borrowers in issuing green bonds. The total issuance of green Asset Based Securities (ABS)/green Asset Based Notes (ABN), on the other hand, doubled between 2016 and 2017, but the pace of growth slowed down in 2018.

Both the number and diversity of issuers have steadily increased, with 2016, 2017, and 2018 having 31, 76, and 99 distinct green bond issuers, respectively, with the first A+-rated issuer successfully issuing a green bond in 2018. In terms of the value of green bonds issued, banks initially accounted for 78% of the value in 2016, but have dropped to and remained at around 60% in 2017 and 2018. Cumulatively, banks account for approximately two-thirds of the cumulative value of green bonds issued in China.

In particular, Industrial Bank of China is the most active issuer, having issued RMB 112.6bn in green bonds since 2016. Bank of Communications, Shanghai Pudong Development Bank, and Bank of Beijing have also each issued RMB 50bn in green bonds.

Investors are currently not as enthusiastic about green bonds as issuers. China's regulators have made green bonds easier to issue by opening designated channels and establishing facilitated approval processes, resulting in easier issuance and therefore lower coupon rates. Observing some overseas market practices like subsidized interest rates or tax credits for investing in green bonds, there are no such policies to incentive investors in China. Therefore, green bonds are relatively less attractive to investors as many green bond issuers have also issued nongreen bonds, which have higher coupon rates. As any ESG issue that impacts the issuer will equally affect its green bonds and nongreen bonds, investors have little incentive to choose green bonds over regular bonds. This systematic lack of enthusiasm for investing in green bonds can be observed from the relatively unchanged issuance amount each year. That being said, investors know that green bonds and the green financial system is a focus of the government and are cautiously observing the developments; it is expected that the government will soon be implementing investor incentives to bolster the green bond market.

What's next for ESG integration in China? Where do you see ESG integration in five years?

We expect ESG integration to be relatively fast in China as the groundwork is currently being set for it to take off. The top-down driving force of ESG integration is not expected

to change, and what has taken other markets a long time to implement is expected to be implemented much faster in China. With the government's efforts to establish a green financial system, China's regulatory environment will allow ESG integration to become deeply rooted in China's asset management industry.

Regulators will continue to draw on international experience and formulate policies to build a solid framework on which ESG integration can thrive. At the same time, the information infrastructure of the financial industry will accumulate, accelerated by the opening up of China to the likes of MSCI and FTSE Russell. As the industry's information infrastructure becomes more robust, as information becomes more reliable and transparent, companies will be able to truly develop systematic methodologies for ESG integration.

Initial efforts for ESG integration were mostly focused on the listed companies' end and have since spread to the asset managers' end. We are seeing information infrastructure initiative being taken by regulators and industry associations alike, such as reporting guidelines for listed companies and for asset managers. However, unlike in other markets where asset owners spearhead a lot of ESG integration efforts, asset owners in China have been relatively slow to become involved. When ESG integration becomes a core consideration at all levels, from asset owners to asset managers to listed companies, it will have successfully become a default social principle in China, and that is when it will have significant impact on the country and the world.

INTERVIEW WITH CHINA'S CENTRAL BANK: PEOPLE'S BANK OF CHINA

Interview with Yao Lei, Deputy Director General, Institute of Financial Research, the People's Bank of China.

Why is ESG investing important to China?

Promoting the concept of green development, green finance, and responsible investment, and encouraging market players to consider and implement the ESG principles in the investment process is a key task that China has attached great importance to in recent years.

Internationally, it is a responsibility of China as a responsible major power to promote ESG investment. Being the world's largest developing country, China has taken a growing role and gained increasing influence in global investment and financial markets over the years. It therefore has the duty to promote ESG investment to contribute to tackling climate change by mitigation and adaptation and advancing the sustainable development of the society. At the UN Climate Change Conference held in Paris in November 2015, President Xi Jinping made a commitment that China will achieve its carbon emissions peak in 2030 and strive to achieve it as soon as possible. To realize its commitments under the Paris Agreement, China should actively implement responsible investment by incorporating ESG factors in its overseas investment including the "Belt and Road Initiative," enhance the international community's understanding and recognition of its overseas investment activities, and should promote green development in related regions.

Domestically, promoting ESG investment is an inherent demand for China's economic transformation and upgrading. On the one hand, green development has become an important national strategy in China. Promoting responsible investment by taking into account environmental, social, and governance factors is an important measure to implement the new development concept of "lucid waters and lush mountains are invaluable assets" and build "Beautiful China." On the other hand, ESG investment can provide investors with new strategies and profit margins and help manage increasing environmental and social risks effectively, and therefore is in line with the inherent needs of the market players.

Therefore, in the long run, with the increasing attention of the international and domestic communities toward green and sustainable development, ESG investment will become an increasingly more important and mainstream investment concept.

What are the notable changes of ESG investment in recent years?

In China, the ESG investment concept has gradually emerged alongside the development of the green finance concept. *The Guidelines for Establishing the Green Financial System* jointly issued by the People's Bank of China (PBOC) and other Ministries in 2016 sought to "encourage long-term capital such as pension funds and insurance capital to implement green investment and encourage investors to publish green investment responsibility

reports.” Concepts of green and responsible investment have since then gradually emerged and been getting popular. There are two major advances in recent years.

First, a series of incentives and support measures have been introduced, creating a favorable policy environment for ESG investment. In September 2018, the China Securities Regulatory Commission (CSRC) revised the *Code of Corporate Governance for Listed Companies* and established the ESG disclosure framework. In October, the Shanghai Stock Exchange, as the chair member of the World Federation of Exchanges (WFE) led the development and published the *Principles for Sustainable Exchanges*, which recommends that its member exchanges publish ESG information disclosure guidelines. In November, the Asset Management Association of China (AMAC) released the *Guidelines for Green Investment (Trial)* to guide and standardize the green investment activities of securities investment funds. The *Guidelines* stressed that “ESG responsible investment is an emerging investment strategy for the asset management industry and also important measure for the fund industry to implement green development and build a green financial system.”

Second, market players have been showing rising enthusiasm in implementing ESG investment. More and more fund managers pay more attention to ESG factors in their investment process. By the end of 2018, 20 institutions in mainland China have become signatories of the PRI, an increase of 185% year-on-year. The Industrial and Commercial Bank of China (ICBC) also participated in initiating and drafting of the UNEP FI’s *Principles for Responsible Banking*. The size of responsible investment funds continues to grow. Take public fund as an example: as of the end of 2018, there were four “social responsible” investment funds with a total asset size of RMB 7.515 billion, and 58 funds investing in areas of low carbon, environmental protection, green development, new energy, Beautiful China, and sustainable development with a total asset size of RMB 31.698 billion. In addition, related index products continue to emerge, providing rich investment options in the market. For example, the China Securities Index Company has launched 39 green and ESG-related indices, covering both stocks and bonds assets.

How does the central bank promote ESG investment and encourage practitioners to consider ESG-related factors in their portfolios?

International experience shows that governments have always played an important role in encouraging institutional investors to make ESG investment, which is the same in China. The PBOC, as an advocate and promoter of green finance and responsible investment, also plays an active role in promoting ESG investment and has done so through several initiatives.

The first is establishing a standard system to promote the standardized development of ESG investing. In 2018, the PBOC led the establishment of the Green Finance Standards Working Group to study and build domestically harmonized, internationally convergent, clear, and implementable green finance standards system. ESG rating standards and related environmental information disclosure standards are the key tasks of the Working Group. The collaborative study and work between regulators and market players for developing scientific-based, fair and implementable ESG investing standards will lay the foundation for the subsequent introduction of incentives measures, and ultimately benefits the standardized and enduring development of responsible investment.

The second is improving the incentive mechanism and encouraging financial institutions to pay attention to ESG factors. Since 2017, the PBOC has incorporated the green credit performances of the deposit-taking institutions into the macro-prudential assessment (MPA), incentivizing financial institutions to actively expand green credit business and increase financial support to environmentally friendly projects. An important dimension for evaluating green credit performance is the ESG performance of the financial institutions.

The third is emphasizing the ESG concept in developing the local green finance reform and innovation pilot zones. In 2018, the PBOC encouraged the financial institutions in the pilot zones to pilot mandatory environmental information disclosure. The disclosure contents and format were studied and determined by using the self-regulatory mechanism of the green finance industry. Financial institutions could force corporates to disclose information and operate responsibly by disclosing their own ESG information.

The fourth is actively promoting and disseminating the green finance concepts, policies, and best practices through multilateral and bilateral frameworks such as G20, central bank and regulatory green financial network (NGFS), and China-UK Economic and Financial Dialogue. For example, pushing the central bank to implement the ESG concept in its own investment process is a priority of NGFS's work this year.

In the next step, the People's Bank of China will continue to vigorously support ESG investment, not only to popularize and promote the ESG investment concept in China, but also by aligning with key strategies such as the Belt and Road Initiative to actively implement responsible investment in the international investment process and enhance the level of sustainable development of the relevant regions. On the one hand, PBOC will take more consideration of the ESG factors into the central bank's investment portfolios and decision-making, and improve the implementation of the responsible investment principles in the international investment. On the other hand, PBOC will work together with the regulators to continue improving the policy framework, actively cultivate responsible investors groups, encourage market players to develop and invest in ESG products, and grow the ESG investment market.

How do you think ESG investing will develop in China in the next few years?

Looking ahead, ESG investment is promising in China. On the one hand, ESG investment has a huge "blue ocean" market. Green development has been raised as an important national strategy: winning the battle against pollution is one of the three major tasks for building a well-off society in the new era, and the traditional investment and economic growth mode with high pollution and high consumption is not sustainable. Under this context, responsible investment being increasingly in line with the economic restructuring, the demand for ESG investment will continue to grow. According to the research of the Ministry of Ecology and Environment and the China Council for International Cooperation on Environment and Development, China's green investment demand during the 13th Five-Year Plan period will reach 3-4 trillion yuan per year. On the other hand, ESG investment is more in line with the ecological environmental protection requirements of the local and social subjects.

In 2016, the General Office of the CPC Central Committee and the General Office of the State Council issued the "Measures for the Evaluation and Assessment of the

Objectives of Ecological Civilization Construction.” The evaluation of the local governments by the central government has shifted from focusing on economic indicators to including multiple objectives such as ecological civilization construction. In 2018, China began to try out the compensation system for ecological environmental damage. In January 2019, the Supreme People’s Procuratorate and another 10 departments issued the “Opinions on Strengthening Collaboration in the Prosecution of Public Interest Litigation and Coordinating the Fight against Pollution by Law,” which will significantly increase the environmental risks faced by various institutions. It is foreseeable that ESG investment will be implemented by more and more local governments and market players, especially the social security funds, insurance funds and other long-term funds. In addition, China is actively progressing the Belt and Road Initiative. With a strong sense of responsibility for protecting the environment of the countries involved and building a community of common destiny, China endeavors to build a green and harmonious Belt and Road that benefits all.

The Belt and Road construction should adhere to the sustainability principles, attach great importance to ESG factors in the investment process, and take into account of multiple objectives including economic growth and environmental protection. Therefore, with the further increase of international investment such as the Belt and Road Initiative, the Chinese government will further encourage domestic entities to implement ESG investing and promote mainstreaming of ESG investing.

With the great effort and active support of all parties, ESG investment will become an increasingly mainstream investment concept in China with improved supporting policies and relevant standards, enriched products, and growing investors groups and therefore become a key driving force to the sustainable development of China and the global economy.

SECTION 4

**EQUITY AND FIXED INCOME
CASE STUDIES**

E FUND MANAGEMENT CO., LTD.

VALUATION ADJUSTMENT ACCORDING TO ENVIRONMENTAL REGULATIONS

Yixi Wei

In pursuit of long-term sustainable returns for our clients, E Fund Management Co., Limited incorporates environmental, social, and governance (ESG) factors into its investment research framework. In our investment philosophy, companies that perform well in ESG will benefit from enhanced long-term competitive advantages, reduced downside risks, and strengthened reputations.

OUR UNDERSTANDING OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE FACTORS

We believe that good corporate governance allows for higher profits, lower expenses, and more innovation. It also reduces volatility by lowering financial risks and reducing financing costs. Companies adhering to sustainability development principles and outstanding environmental and social standards will more likely build up a positive brand image by providing high-quality products and services, which, in turn, will enhance client loyalty and employee motivation.

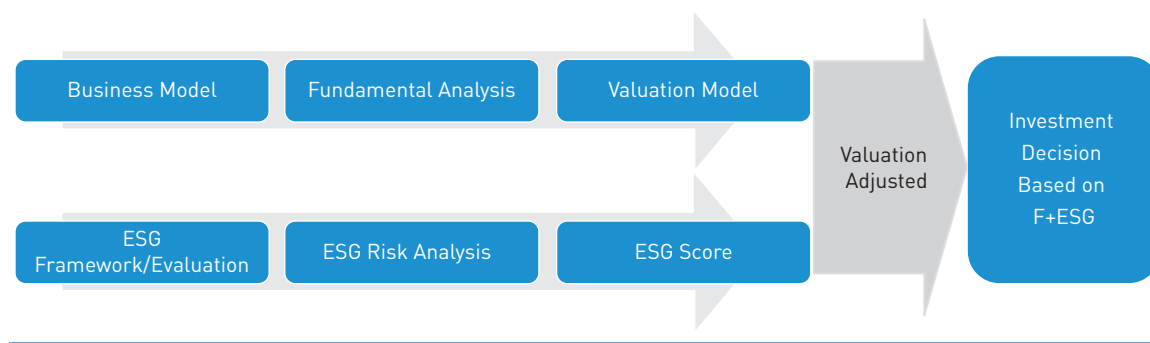
INTEGRATING ESG INTO OUR RESEARCH AND INVESTMENT PROCESS

Our ESG evaluation is conducted in parallel with fundamental analysis (**Figure 1**). When our portfolio managers make investment decisions, the ESG score is taken into account during the valuation adjustment. Therefore, a company's ESG performance will be thoroughly considered in our investment decision.

HOW WE ANALYZE SPECIFIC ESG ISSUES

On 11 November 2017, the Ministry of Ecology and Environment of China published "Regulations on a List of Key Pollution Entities." These regulations emphasized four major types of pollution—water, land, air, and noise—each covering a variety of industries.

Our ESG research team concluded that the government will enforce stringent pollution controls and decided to pay more attention to environmental risks in certain upstream

FIGURE 1: ESG EVALUATION COMBINED WITH FUNDAMENTAL ANALYSIS

industries, such as the mining, metal smelting, and chemical industries. The following is a list of actions we took:

1. **Developing an analysis framework:** To analyze the environmental performance of companies, our ESG research team constructed a framework that consists of four factors, specifically focusing on environmental protection (these factors comprise one part of our ESG framework).
 - industry-related environmental risks and their impacts on the company
 - the company's strategy in response to environmental risks and the quality of the company's resource management
 - capital expenditure on environmental protection equipment and the effectiveness of resource use
 - the company's history regarding environmental issues, including negative news and violation records from local regulation departments
2. **Rating and scoring environmental performance:** Our analysts and portfolio managers use the framework as a guideline to evaluate companies. After in-depth research, analysts and portfolio managers rate each factor; a higher score means lower environmental risks and greater competitive advantages. By doing so, we convert the environmental performance to a quantitative score.
3. **Valuation adjustments based on the environmental score:** Our analysts and portfolio managers use environmental scores as references to guide valuation adjustments. Portfolio managers use the adjusted valuation to make investment decisions. The following are a few types of adjustment techniques.
 - adjusting target price to earnings (P/E), which reflects the company's competitiveness in comparison to its peers with higher/lower environmental standards
 - adjusting cost assumptions, which is related to future capital expenditures in environmental protection spending
 - adjusting required return rate or discount rate, which is influenced by the environmental risk premium.

4. **Making better investment decisions:** After implementing the ESG-integrated investment process, our portfolio managers can make better and more objective decisions. In our research and investment process, ESG analysis serves as an important supplement to fundamental analysis. We believe that this process enables us to evaluate a company from a new perspective, one that is often ignored by most portfolio managers.

CASE EXAMPLE

Early this year, we conducted analyses on two companies (Y Chemical and H Corporation, both in the chemical industry sector) in the China A market. These two companies have similar business models and fundamental performances.

Following our environmental framework, our analysts provided the following viewpoints:

- Both Y Chemical and H Corporation have high levels of exposure to environmental risks. Environmental Risk Ratings for both Y Chemical and H Corporation were low.
- According to onsite visit results, Y Chemical's environmental management was slightly better than that of H Corporation's. Y Chemical had its own sewage management system that was above the government-required standards. The Risk Response Rating was higher for Y Chemical as compared to H Corporation.
- Y Chemical had consistently invested in various sewage and disposal projects; a good amount of investment was disclosed in annual reports since 2007. H Corporation disclosed cumulative capital expenditures in recent years without detailed information. The Capital Expenditure Rating was higher for Y Chemical compared to H Corporation.
- Y Chemical had three negative news announcements in the last three years. H Corporation was fined four times by the local government for environmental violations and had two negative news announcements in the last three years. The Historical Record Rating was higher for Y Chemical compared to H Corporation.

We concluded that Y Chemical's total score was 9, and H Corporation's score was 5, indicating that Y Chemical has lower environmental risks as compared to H Corporation.

No reliable method was available for us to estimate the projected environment protection cost, so our portfolio manager decided to adjust the target P/E to reflect our lower return expectation for H Corporation. Compared to the industry average—23.7 P/E (trailing 12 months)—H Corporation was given a discounted target of 20 P/E by our portfolio manager, while maintaining the same estimation for other fundamental valuations. As a result, H Corporation was estimated to have a negative return in our valuation model and deemed not worth investing in. We considered H Corporation to be overpriced by the market because the environmental risks were not fully considered.

HWABAO WP FUND MANAGEMENT CO., LTD.

NEW PERSPECTIVES UNDER HIGH-QUALITY DEVELOPMENT TREND IN CHINA: APPLICATION OF ESG INVESTMENT IN THE AGROCHEMICAL INDUSTRY

Hwabao WP Staff

As environmental, social, and governance (ESG) investment criteria are still in the early stage of development in China, Hwabao WP Fund Management has committed to being a pioneer in this area. The Green Finance Committee of the China Society for Finance and Banking, led by Jun Ma, former chief economist at People's Bank of China, is the first professional organization that aims to promote Green Finance Development research, product innovation, government policy, and industrial coordination in China. Hwabao WP Fund Management became a formal member of the Green Finance Committee of the China Society for Finance and Banking in 2017 and is now working to integrate ESG factors into its investment and research framework, to include both passive and active investments. The following describes the various developments with regard to ESG investing in China.

BACKGROUND

Reasons for and Sustainability of a More Stringent Environmental Monitoring Mechanism

Following the 19th National Congress of the Communist Party of China in 2017, China has taken a top-down approach to governance on environmental protection; its approach can be divided into three levels:

1. Treat pollution prevention as one of the three national critical battles, with the aim of controlling pollution levels within a certain range by 2020.
2. Establish a long-term supervision mechanism. From state council to local government, China plans to set up top-down environmental monitoring organizations to conduct regular inspections and supervision to ensure that government policy targets are achieved.

3. Establish assessment and ranking mechanisms to pursue “green” gross domestic product growth. China’s government will compile a quantitative ranking of pollutants in provinces, municipalities, and autonomous regions, and will impose administrative penalties on those areas with low rankings.

From these initiatives, we can conclude that environmental protection has become a “new normal” facet of China’s economic growth, and that this trend will continue for a long time.

Changes in the Competitive Pattern of China's Chemical Industry under the New Governance

Since 2016, the Ministry of Environmental Protection of China has conducted several rounds of environmental inspections. In the chemical industry, the main inspection targets include highly polluting enterprises and chemical industrial parks. To achieve its goals, the Ministry of Environmental Protection imposes various sanctions on enterprises that fail to meet emission requirements or lack environmental protection equipment. These sanctions include financial penalties, factory shutdowns, and company rectifications.

The agrochemical industry represents a typical industry affected by China’s more stringent environmental supervision. For instance, the Environmental Protection Department of Jiangsu Province shut down the local chemical industrial parks for inspection purposes in March 2018. This shutdown involved 70 agrochemical companies (about 13% of the local chemical industry)—far above the national average level of 1.3%.

From a short-term perspective, the price of pesticide products will increase after the government shuts down those chemical industrial parks; in the long term, the leading agrochemical companies that complied with the environmental protection standards will improve their market share, bargaining power, and profitability after such supply-side reforms.

CASE EXAMPLE: INTEGRATING ESG FACTORS AND CHINA'S REGULATORY CHANGES INTO EQUITY VALUATION

From an equity valuation analysis perspective, we will use an A-share-listed agrochemical firm, Company B, to illustrate how the regulatory changes in China’s environmental protection mechanism would be integrated and what the impact on the industry’s competitive structure would be.

Company B’s major business is the production and sale of agrochemical products, including insecticide, herbicide, and other agrochemical products. Major clients are downstream preparations, focusing on exports. Because of its advanced production technology, highly efficient production line, and high environment protection standards (higher

FIGURE 1: PRODUCT STRUCTURE OF COMPANY B

PRODUCT	REVENUE PERCENTAGE (%)	GROSS MARGIN (%)	MARKET SHARE
Product A (insecticide)	43.0	45.6	Will achieve the world's largest production capacity after reaching new target level of production capacity. Market share: more than 50%.
Product B (herbicide)	44.7	50.3	World's largest production capacity. Market share: more than 50%.
Others	12.3	4.2	...

Source: Annual report; both Product A and Product B have entry barriers and comply with the new environmental requirements.

than the industrial average), Company B is always ranked in the first tier of China's agrochemical industry. The company's Product A (insecticide) sales volume is ranked first in China and second in the world. Its Product B (herbicide) sales volume is increasing, having become more popular based on the product's high efficiency and low level of toxic ingredients. **Figure 1** shows the company's main product structure.

Under the influence of China's new environmental protection mechanism, Company B's profitability will change in two ways. First, Company B will see an increase in its short-term profitability—agrochemical product prices will increase immediately following the shutdown of unqualified agrochemical companies. Second, the company's revenue and return on equity will increase in the long run after Product A reaches its target production capacity. Following the withdrawal of production capacity not compatible with the new environmental protection mechanism, the concentration ratio of the whole industry will increase. Thus, Company B can ensure its leading position in the industry and increase its market share.

SEIZING SIMILAR INVESTMENT OPPORTUNITIES IN LIGHT OF THE NEW ENVIRONMENTAL PROTECTION MECHANISM

Previously, most ESG research was conducted to avoid risk, especially in the fixed-income market. However, it is also important for equity portfolio managers to pursue excess returns by integrating ESG factors into the investment decision-making process. We have the opportunity to explore a broader range of investment opportunities because China is on track to improve its environmental protection standards. Referring to the equity

valuation analysis example above, if we sort China's publicly listed companies (especially those with excess capacity, low industry concentration, high pollution, high energy dissipation, and high emissions problems seen in traditional industries) by using factors such as related production capacity, product segmentation, and market share (among others), we can adjust our forecast of the short-term product price trend and the industry's long-term competitive structure based on the progress of China's environmental protection supervision. Then, we can amend our company-specific valuation model to uncover potential investment opportunities.

INSIGHT INVESTMENT

HOW TO INVEST RESPONSIBLY IN CORPORATE DEBT

Joshua Kendall

Some investors use the terms “responsible investment” and “ESG” (referring to environmental, social, and governance factors) interchangeably. At Insight Investment, we believe that responsible investment refers to a much broader approach than simply one that focuses on ESG issues—though ESG factors have a key role to play.

We believe a responsible approach to investing in corporate debt depends on the effective management of the risks and opportunities presented by long-term value drivers, including ESG issues. Below, we outline how such a strategy works in practice. We believe the full integration of ESG risk factors within investment analysis and proactive engagement on material issues are crucial aspects of this strategy.

INTEGRATING ESG FACTORS WITHIN INVESTMENT ANALYSIS

The first step in establishing a responsible investment approach is to ensure the investment process takes into account all material risks, including ESG factors. At Insight, default risk is the prism through which our corporate bond analysts consider every issue, and ESG risk scores are a necessary element in assigning a credit rating that indicates the relative risk of default loss. Insight’s credit analysis team is charged with determining the materiality of issues on our risk checklist (see **Figure 1**).

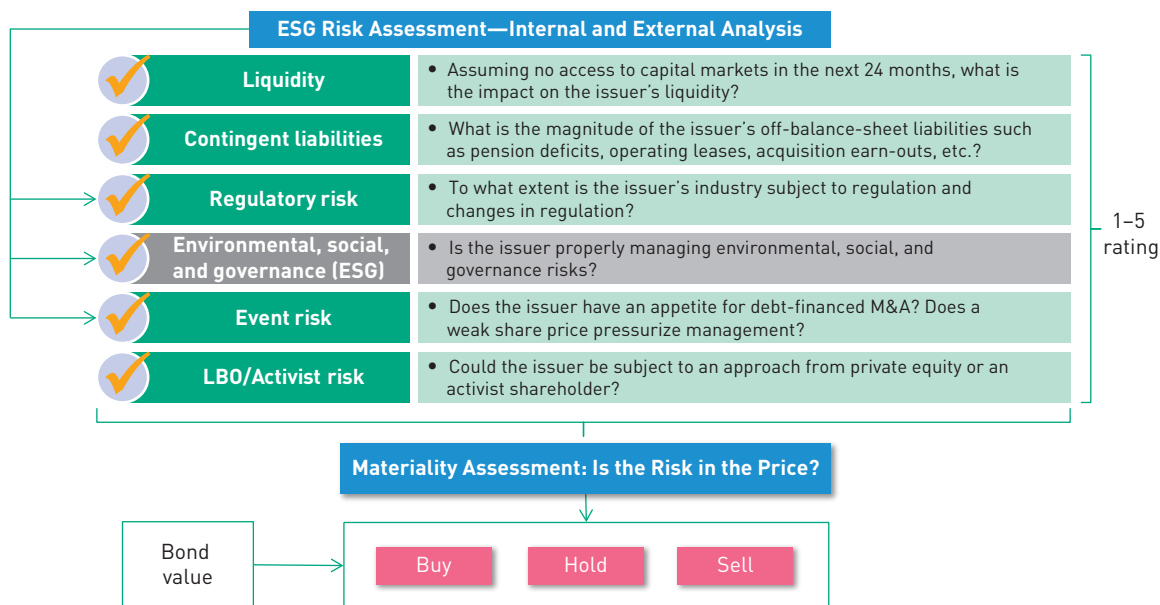
By combining ESG risk screening and financial analysis in our extended credit risk appraisal process, we bring together an assessment of the financial risks associated with a company’s performance with a clearly defined set of key business risks as a part of the mainstream investment process.

Doing this matters. In 2017, one of our analysts identified material risks at a global retailer and recommended avoiding a new issue from the company. Within months, significant accounting irregularities emerged, the company was downgraded, and the investment swiftly lost approximately half its value.

IDENTIFYING ESG RISKS

We transpose third-party ESG ratings into the five-point risk scale that we use to assess the significance of nonfinancial risk factors. Our ESG assessment focuses on the material risks in each sector or business. For example, we consider carbon emissions and health and

FIGURE 1: INSIGHT INVESTMENT'S RISK CHECKLIST



Source: Insight Investment. For illustrative purposes only.

safety as important risks for companies operating in the mining sector, but we see these as generally of lower importance for financial services companies. The exception is with corporate governance, where we consider the risks an important part of our evaluation for every type of issuer and credit quality. **Figure 2** illustrates the range of ESG risk issues and the scores we use.

FILLING THE GAP

Data from third-party providers are important, but not enough. For many smaller issuers—especially emerging-market and high-yield companies—the availability of relevant non-financial data often lags behind that available for larger issuers.

Insight, therefore, follows a process to generate ESG ratings for those companies for which we cannot source independent ESG analysis from our market data providers.

1. Insight credit analysts identify companies with no ESG ratings but where the company is, or may be, issuing bonds that may be suitable for Insight's credit portfolios.
2. Insight credit analysts work with the Insight ESG analyst to develop a custom ESG self-assessment tool that reflects the sector-specific risk issues relevant to the issuer.
3. Company management is contacted to complete the self-assessment.
4. Insight generates an ESG scorecard based on the self-assessment response.
5. Insight credit analysts follow up with any risk issues identified.

FIGURE 2: INSIGHT INVESTMENT'S ESG RATINGS FRAMEWORK

ESG Overall Score Normalized industry-adjusted score 1-5							
Environment Pillar Absolute score 1-5			Social Pillar Absolute score 1-5			Governance Pillar Absolute score 1-5	
Carbon	Natural Capital	Pollution	People	Products	Place	Corporate Governance	Behavior
Carbon emissions	Water stress	Toxic emissions	Labor management	Product safety and quality	Controversial sourcing	Board	Business ethics
Carbon vulnerability	Biodiversity and land use	Waste	Health and safety	Chemical safety		Pay	Anticompetitive practices
Product footprint	Raw material sourcing		Human capital development	Financial product safety		Ownership	Corruption and instability
Financing			Supply chain	Privacy and data security		Accounting	Financial system instability
			Health and demographic risk	Responsible investment			Tax transparency

} Ratings used in Risk Checklist

} ESG issues

Assessed category for all issuers

Source: Insight Investment and MSCI Inc. For illustrative purposes only. Based on MSCI ESG ratings framework.

EXAMPLES OF ANALYST RECOMMENDATIONS INFLUENCED BY ESG FACTORS

Our analysts’ views on ESG factors have directly affected their investment recommendations, as demonstrated by these two recent examples. Note that low ESG scores do not automatically result in an exclusion or sell decision.

Example: Long Position

European property company:

- improving governance outlook
- successful engagement with company on ESG issues

Analyst recommendation: Overweight exposure in active portfolios.

Example: Short Position

US technology company:

- low ESG ratings, especially for governance
- faces industry headwinds
- slow to respond to emerging trends

Analyst recommendation: Sell via credit default swaps; not suitable for holding to maturity.

ENGAGEMENT: A KEY ELEMENT OF A RESPONSIBLE APPROACH TO CREDIT

If ESG, strategic, and financial risks are identified, our analysts are expected to engage in a dialogue with company management. Material governance issues are regularly discussed, and material environmental and social issues are covered when relevant, as we consider ESG risks alongside other factors when assessing a company's financial strength, strategic direction, and overall quality of management, and the market valuation of its securities. We also monitor changes—particularly downgrades—to key risk scores each quarter.

Insight's credit analysts meet with all companies before investing in any bonds or loans the companies have issued or are about to issue. Company meetings are undertaken by our in-house analysts because we consider engagement to have material financial implications, and we believe that those implications are best understood within the context of the wider investment process.

Escalating engagement activities occur on a case-by-case basis. From a risk perspective, if we are not satisfied with a company's management of risk (including ESG-related risks), we are prepared to sell holdings or move to an underweight position. In some portfolios, this will not be possible because of mandated restrictions. In such situations, we discuss potential investment actions with clients (which may include taking no action, selling holdings, or continuing to monitor).

Engagement can have a clear impact on an investment. We extensively consulted with a major listed company in 2017 to improve its disclosures in its accounts. It agreed and committed to improve its disclosures in the future, and we subsequently invested in that company's issue.

CONCLUSION

We believe a responsible approach to investing in corporate debt is to integrate ESG risk factors within the investment analysis to ensure that all material risk factors are taken into account. To do this effectively, proprietary research is often needed, especially in areas of the market not covered by third-party data providers.

Integrating ESG risk factors can do more than simply lead to exclusions from the investment universe. It can provide more information on the risks within a portfolio and prompt effective engagement to help manage such risks or even improve the prospects for potential investments.

Ultimately, we believe following such an approach supports long-term investment outcomes and aligns our interests with those of our clients, as well as the wider society.

BRECKINRIDGE CAPITAL ADVISORS

INTEGRATING ESG FACTORS INTO CORPORATE FIXED-INCOME INVESTMENTS

Robert Fernandez, CFA

Breckinridge Capital Advisors is a separate-account, investment-grade fixed-income manager based in Boston with over \$36 billion in assets under management.¹ We serve institutional as well as individual clients by offering taxable and tax-efficient US dollar–dominated bond strategies. Our primary objectives for our clients are to: (1) preserve capital while building a reliable source of income, and (2) take advantage of opportunities to improve total return.

Breckinridge seeks to be vigilant in an ever-changing investment landscape. This attentiveness extends to credit risk, as we are committed to carrying out rigorous fundamental research on our borrowers. For investment-grade companies, environmental, social, and governance (ESG) risks may be low-probability but high-impact factors, as illustrated by the governance failures during the financial crisis and by other headlines stemming from corporate environmental or social controversies.

Therefore, we strongly believe that material ESG issues, when poorly managed, can manifest themselves as a credit risk. With this in mind, in 2011 we integrated an analysis of ESG issues into our fundamental credit-research process for corporations as well as for US municipalities.

THE BRECKINRIDGE ESG INTEGRATION PROCESS

When analyzing a corporate bond for investment, Breckinridge analysts first evaluate an issuer's business profile, market position, and competitive profile, as well as fundamental credit measures (such as margins, leverage, and cash flow). The analysis then turns to an evaluation of management and sector-specific material ESG indicators, such as carbon emissions, workplace injury rates, and the composition of the board of directors. Further, important takeaways from any engagement calls with the issuing company are integrated into the analysis. The research is captured in an overall credit recommendation that includes an internal rating, a sustainability rating, and the analyst's bond valuation view. The recommendation is distributed to the investment team and helps to drive security selection (**Figure 1**).

Our ESG analysis consists of a quantitative score and qualitative-based research. The quantitative score is derived from a proprietary framework that aggregates metrics from ESG research providers as well as from other third-party sources. Our corporate analysts also perform a qualitative assessment by reviewing a company's ESG policies and targets, which may be outlined in its corporate sustainability report or on its website, and consider information learned from the engagement call. The analyst evaluates both the score and qualitative research when assigning a sustainability rating for the company. This measure of an issuer's ESG risk profile may affect the analyst's overall internal rating. Specifically, the analyst may upgrade the internal rating to reflect a corporation's low

¹ As of 30 June 2018.

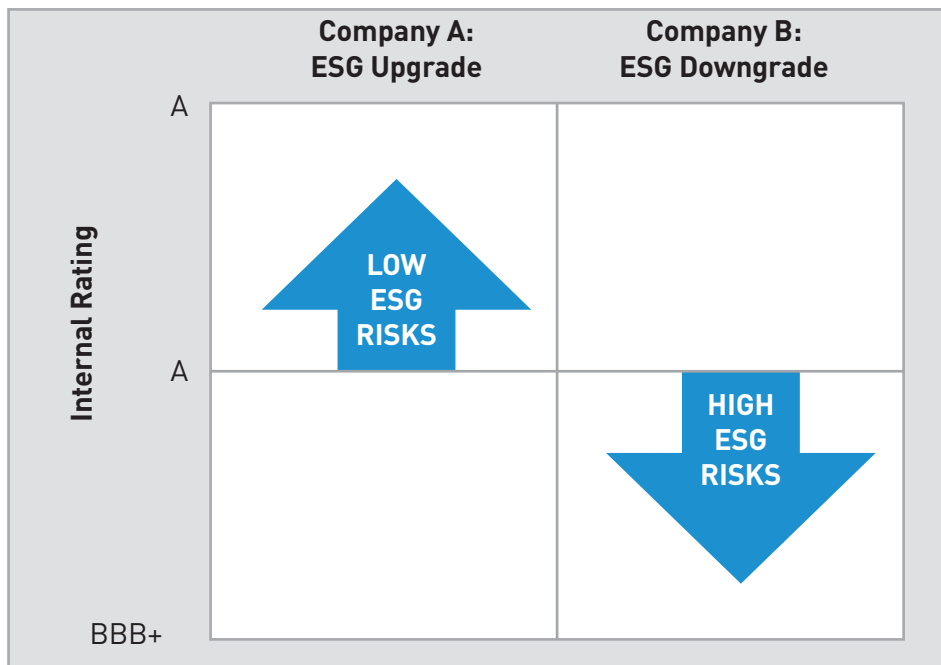
FIGURE 1: HOW ESG IS INTEGRATED INTO BRECKINRIDGE'S CREDIT RESEARCH PROCESS



ESG risks or downgrade the rating if the ESG risks are considered high or poorly managed (**Figure 2**). The final internal rating guides our valuation and trading decisions.

Importantly, Breckinridge’s ESG research emphasizes criteria that are material to the financial performance of each industry and company. Data show that the most effective ESG assessments target material ESG issues that can significantly impact core business drivers for a given company or sector. Firms with stronger performance on material ESG issues tend to outperform their peers, according to a 2015 academic study.² To help determine materiality, analysts consider the standards developed by the Sustainability Accounting Standards Board, an independent, private-sector standards-setting organization.

FIGURE 2: CREDIT UPGRADE/DOWNGRADE FOR ESG RISKS

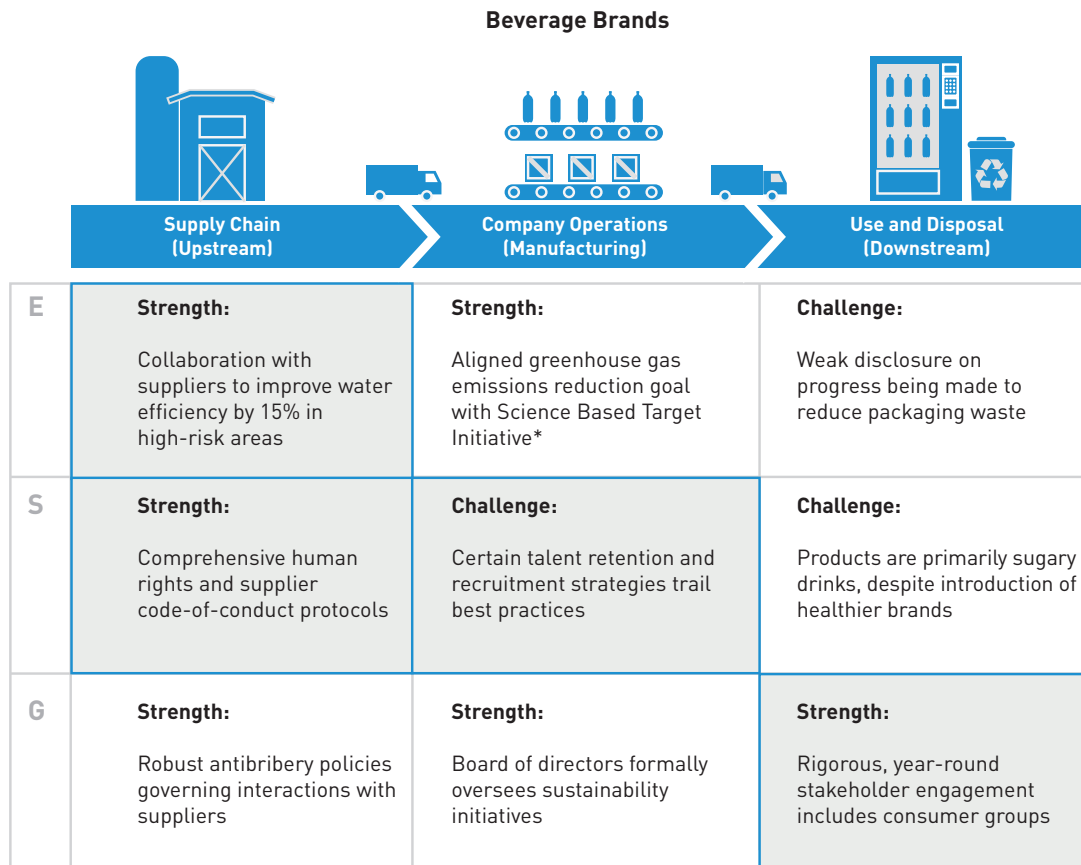


² “Corporate Sustainability: First Evidence on Materiality” by Harvard Business School researchers Mozaffar Khan, George Serafeim, and Aaron Yoon, 2015.

ANALYZING A SOFT DRINK COMPANY

To illustrate the Breckinridge ESG research process, we highlight how a corporate credit analyst may evaluate Beverage Brands, a manufacturer of packaged soft drinks.³ **Figure 3** summarizes the analyst’s research on the company’s ESG performance across the value chain, from how it works with its suppliers to its own operations and the quality and use of its products.

FIGURE 3: BEVERAGE BRANDS’ STRENGTHS AND CHALLENGES UNCOVERED THROUGH ESG RESEARCH



Notes: Gray boxes denote material sector issues.

*The Science Based Targets Initiative is a collaboration between CDP, World Resources Institute, the World Wide Fund for Nature, and the United Nations Global Compact. To date, 417 companies have committed to science-based targets that align with the emissions reductions necessary to maintain global temperature increase below two degrees Celsius per the Paris Agreement.

³ Beverage Brands is a fictional name used to maintain anonymity, but the example is of an actual company.

The research identifies several strengths and challenges, some of which may be material from a financial perspective. For example, because water is a key input for the ingredients used in the beverage products, efforts to ensure a steady supply of water would be considered both an ESG strength and a credit strength. Furthermore, water management is a material issue for the sector, because a lack of water can impact crop yields and prices, increasing the cost of goods sold.

The analyst weighs the strengths and challenges, and compares the performance of Beverage Brands to its industry peers. The mosaic of information as provided in Figure 3 depicts a company with what we believe to be a strong ESG profile, reflecting the various initiatives management has put in place to address Beverage Brands' ESG issues, including those that are considered material to the company and sector. A sustainability rating is assigned commensurate with Beverage Brands' solid ESG performance, which is also incorporated into its internal rating.

When appropriate, Breckinridge analysts may adjust their financial models to account for an ESG consideration. In the case of Beverage Brands, the analyst's projections reflect the company's push into healthier noncarbonated drinks in response to consumer demand trends.

CONCLUSION

As an investment-grade fixed-income manager, Breckinridge's ESG analysis integration was a natural evolution of our credit research process. We look at ESG as another tool in the credit research toolbox, and use it to gain a better understanding of the quality and character of a corporate bond issuer. In the end, we view ESG integration as providing a broader risk assessment and simply as a means to prudent investing.

APPENDIX

METHODOLOGY

METHODOLOGY

In preparing these reports, we collected data from several sources, including:

- an ESG integration survey of 1,100 financial professionals, predominantly CFA Institute members. The survey ran from September 2017 to July 2018;
- workshops organized by CFA Institute, PRI, and 23 CFA® Societies that ran from October 2017 to April 2018;
- Bloomberg, which contributed two datasets—equity and fixed income—of its ESG disclosure scores for 17 markets; and
- PRI's 2017 reporting framework, which collates the ESG practices of practitioners around the world.

ESG INTEGRATION SURVEY

To better understand how ESG factors impact the capital markets (share prices, corporate bond spreads, and sovereign debt yields) and how frequently investors do and do not integrate ESG data in their investment analysis and process, the firm YouGov was commissioned to administer a global survey on ESG integration.¹ The survey asked questions to gauge investor attitudes toward ESG integration as well as to obtain a better understanding of how ESG integration is done in practice.

Research was carried out among stakeholders in 17 different markets. The findings for respondents in the APAC region are based upon 339 completed surveys from respondents based in:

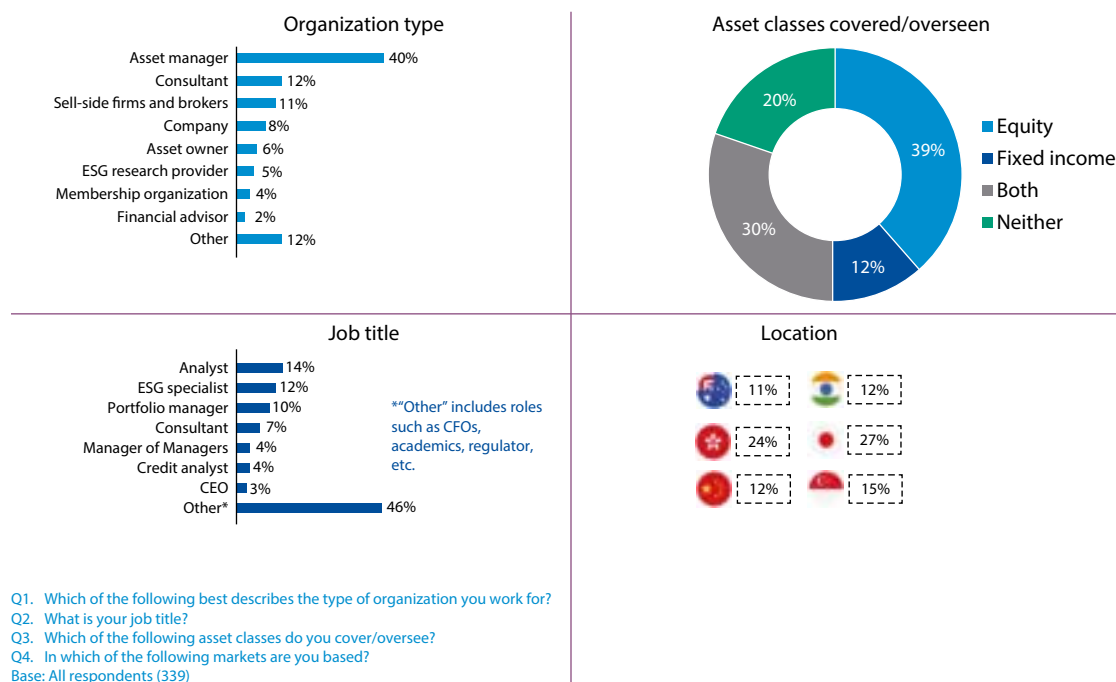
- Australia (n=36);
- Mainland China (n=40);
- Hong Kong SAR, China (n=80);
- India (n=42);
- Japan (n=91);
- Singapore (n=50).

Figure A.1 provides the demographics of the survey respondents from the APAC region.

¹ PRI commissioned YouGov to set up and host the online survey on YouGov's bespoke, secure survey platform. The survey was available to complete in a variety of languages. PRI and CFA Institute promoted the survey via invitations to the workshops discussed later in this report.

FIGURE A.1: APAC SURVEY RESPONDENT DEMOGRAPHICS

Overview of respondents



WORKSHOPS

We held 23 workshops to accompany the survey. Ten workshops were held in the APAC region, including workshops in Australia, Mainland China, Hong Kong SAR, China, India, Japan, and Singapore (figure A.2).

The purpose of these workshops was to provide color to the results of the survey. Workshop participants were split into groups of six to eight and discussed and contributed their views on the preliminary results of the survey. From the workshops, we were able to collect insights from local practitioners who are predominantly non-ESG investment professionals.

BLOOMBERG'S ESG DISCLOSURE SCORES

CFA Institute and PRI asked Bloomberg if the firm would like to partake in this ESG integration project by contributing a dataset of its ESG disclosure scores. We considered that the analysis of ESG company data, found in the subsections “Trends in ESG Company Data,” would further help investors when they integrate ESG data into their investment analysis and process.

FIGURE A.2: ESG WORKSHOP LOCATIONS

ESG WORKSHOPS ACROSS THE WORLD		
AMER	APAC	EMEA
Boston	Beijing	Amsterdam
New York	Hangzhou	Cape Town
Toronto	Hong Kong SAR	Dubai
Sao Paulo	Melbourne	Frankfurt
	Mumbai	Johannesburg
	Shanghai	London
	Shenzhen	Moscow
	Singapore	Paris
	Sydney	Zurich
	Tokyo	

Note: AMER = Americas; APAC = Asia Pacific; EMEA = Europe, Middle East, and Africa

The dataset includes companies with a FY2016 market cap above USD 1 bn extracted on 21 January 2019. It was broken down further into small (market capitalization between \$1bn and \$2bn), mid (market capitalization between \$2bn and \$10bn), and large cap (market capitalization more than \$10bn).

The dataset has combined ESG disclosure scores for 2011 and 2016 for the 10 different Bloomberg Industry Classifications (BICs): Communications, Consumer Discretionary, Consumer Staples, Energy, Financials, Healthcare, Industrials, Materials, Technology, and Utilities. It also contains environmental, social, and governance scores per sector for 2016.

Bloomberg’s ESG disclosure scores are based on publicly available data and are a score of how companies report on ESG, not necessarily how they perform. The score is based on company disclosures on over 100 environmental, social, or governance disclosure points. Each type of disclosure is scored from 0 to 100, and then aggregated to a single environmental, social, or governance score. These are again aggregated to a combined ESG disclosure score. Some factors are given a higher weight depending on their importance, and the scores are also tailored to each industry. Bloomberg accounts for industry-specific disclosures by normalizing the final score based only on a selected set of fields applicable to the industry type; for example, “Total Power Generated” is counted into the disclosure score of utilities companies only.

The ESG disclosure scores shown in the regional reports are median scores to avoid skewing of the data with extreme values. Due to the scores being medians, they cannot be aggregated across sectors. The representativeness of the data varies among markets, as some markets have more listed companies.

THE PRI REPORTING FRAMEWORK

We analyzed data from the PRI reporting framework, alongside the survey and the feedback of the workshops, when writing the subsections entitled, “Investment Practices of Local Practitioners: Equities and Fixed Income.” PRI signatories submit reports that detail their ESG approach/commitments and ESG practices on an annual basis. The analysis for this report is based on the PRI signatories’ ESG practices reported during 2017.

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