Principles for Responsible Investment

CHINA UK PACT

ESG AND ALPHA IN CHINA

FINANCE UNEP INITIATIVE

United Nations Global Compact

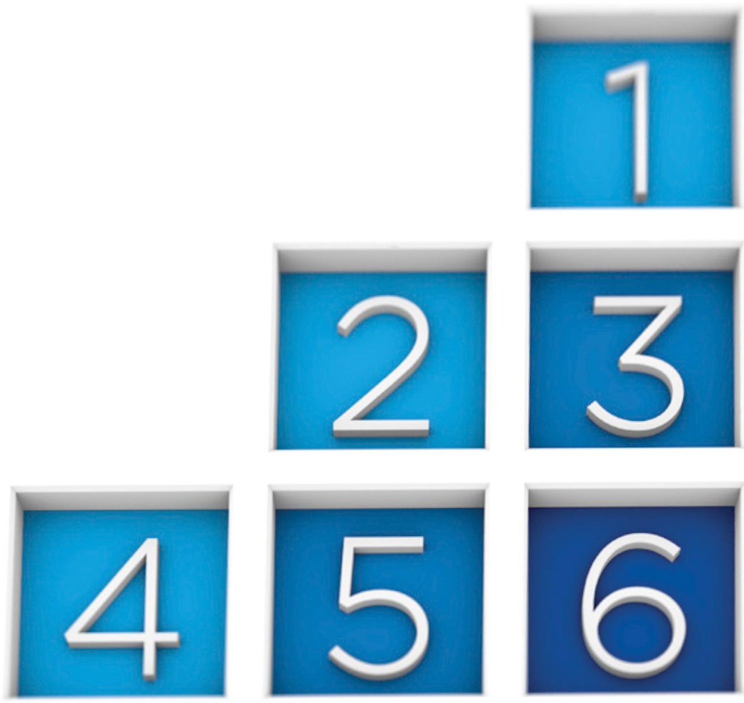
An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

THE SIX PRINCIPLES

PREAMBLE TO THE PRINCIPLES

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

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the Principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the Principles.
6. We will each report on our activities and progress towards implementing the Principles.



PRI's MISSION

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

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

CONTENTS

ACKNOWLEDGEMENTS

This report is part of the research project on ESG disclosure in China funded by the UK Government and is a follow-up from the reports *Investor duties and ESG integration in China*[1] and *ESG data in China: recommendations on primary ESG indicators*[2].

The project team would like to thank the UK PACT and the UK Government for their support to this research.

The project team would like to thank BNP Paribas Asset Management, China Asset Management Co., Ltd., E Fund Management Co., Ltd., Harvest Fund Management Co., Ltd. and Hwabao Fund Management Co., Ltd. for providing examples of investor practice for this report.

The project team would also like to thank Daniel Cremin, Katherine Han, Naoya Nishimura, Panos Seretis, Xiaoshu Wang, Wilson Wei, Gabriel Wilson-Otto, Xu Yan, Miranda Zhao and Wei Zhen for their contributions to this report and the related consultation event organised in Beijing on 4 December, 2019.

For questions or comments, please email policy@unpri.org.

1 https://www.unpri.org/fiduciary-duty/investor-duties-and-esg-integration-in-china/2915.article
2 https://www.unpri.org/fiduciary-duty/esg-data-in-china-recommendations-for-primary-esg-indicators/4345.article

EXECUTIVE SUMMARY

China published guidance in 2016 that laid the foundations for a sustainable finance and investment policy framework. The guidance heralded a series of initiatives designed to help companies offer ESG financial products and services and provide investors with the information they need to make informed decisions. Alongside these efforts, the Asset Management Association of China published guidelines aimed at helping asset managers incorporate ESG principles into their businesses.

Historically, poor data quality and under-representation in major global benchmarks has been an issue for ESG investors interested in increasing their exposure to the onshore Chinese equity market. This is now changing. Chinese asset managers have made progress in expanding their ESG research capabilities, while regulation has encouraged disclosure and onshore Chinese companies have increasingly been included in global benchmarks. In the first nine months of 2019, global investors increased their allocation to A-shares by approximately US$24 billion. MSCI has begun partially including more China A-shares companies in its flagship global and emerging market benchmark indexes, prompting investors to invest in A-Shares (domestic shares) companies traded on the country's stock exchanges in Shanghai and Shenzhen.

Aside from policy and globalisation, there is a third argument for ESG integration in China, which is that it is a source of investment value. Global empirical and academic evidence suggests that ESG analysis assists investors to identify value-relevant issues. While it does not provide any explanation of causation, PRI analysis of portfolios that systematically select stocks with superior ESG characteristics (best-in-class) or incorporate ESG profiles into weightings (tilting strategy) shows an increase in Alpha delivered over six years.

Asset managers in China are increasingly developing ESG strategies. The latter sections of this report focus on five of these firms (BNP Paribas Asset Management, China Asset Management, E Fund Management, Harvest Fund Management and Hwabao Fund Management), showing how they are formulating their ESG propositions, and setting out real world examples of where ESG investment has led to downside protection or Alpha generation. One challenge across the board is data quality. However, asset managers are finding workarounds, for example by leveraging qualitative research and expert analysis in their analytical frameworks. For many, active engagement plays an important role in helping companies understand investor expectations as well as promoting solutions that help Chinese companies improve their understanding of sustainability issues.

THE DRIVERS OF ESG INTEGRATION IN CHINA

Since seven ministries and financial regulators in 2016 published the Guidelines for Establishing a Green Financial System in China, green finance and investment have become key pillars of the country's economic transformation.[3] With China's annual GDP per capita approaching $10,000[4], there is a growing trend towards favouring choices that improve quality of life, for example through cleaner air or safer products. Moreover, Chinese regulators, investors and public are increasingly holding companies accountable for fraudulent or irresponsible business practices.

Two driving forces support the development of responsible investment and ESG integration in China:

1. Policy - A top-down push by policymakers and regulators to develop a policy framework for a financial system that underpins green growth.

2. Globalisation - The opening up of China's investment market, combined with increasing scrutiny by international investors of ESG factors that impact the performance of Chinese companies, and of related economic risks and outcomes.

There is a third argument for ESG integration in China: that it is a source of investment value. Global empirical and academic evidence suggests that ESG analysis can help investors identify value-producing opportunities.[5] Neglecting ESG analysis, conversely, may lead to the mispricing of risk and poor asset allocation and is therefore a failure of fiduciary duty.[6]

A study led by the PRI in the US market in 2018 demonstrates that ESG is indeed a source of Alpha.[7] Investment strategies using ESG factors to rank equities or bonds in developed markets and the U.S. market may in fact generate excess returns versus their benchmarks.

While ESG data in China is not present in the same depth or timespan as in developed markets, preliminary analysis based on MSCI ESG Research LLC data, and case studies by local and international investors, suggests that ESG is also a source of Alpha in Chinese markets.

3 People's Bank of China (PBOC), Ministry of Finance (MOF), the National Development and Reform Commission (NDRC), the Ministry of Environmental Protection (MEP), the China Banking Regulatory Commission (CBRC), the China Securities Regulatory Commission (CSRC), and the China Insurance Regulatory Commission (CIRC). The CBRC and CIRC was merged into the China Banking and Insurance Regulatory Commission (CBIRC) on April 8, 2018. The MEP was reformed into the Ministry

4 China's GDP per capita was $9,770.8 in 2018, World Bank.of Ecology and Environment (MEE) on April 16, 2018.

5 See section on ESG and financial returns hereafter

6 https://www.unpri.org/fiduciary-duty-in-the-21st-century-final-report/4998.article

7 https://www.unpri.org/listed-equity/the-pris-esg-and-alpha-study/2740.article

BOX 1: DEFINING RESPONSIBLE INVESTMENT AND ESG INTEGRATION

The PRI defines responsible investment as a strategy and practice to incorporate environmental, social and governance (ESG) factors in investment decisions and active ownership.[8]

In listed equities, responsible investment is an approach to managing assets that sees investors include ESG factors in:

- their decisions about what to invest in;
- the role they play as owners of companies.

Responsible investment aims to combine better risk management with improved portfolio returns, and to reflect investor and beneficiary values in an investment strategy. It complements traditional financial analysis and portfolio construction techniques.

ESG issues can be incorporated into listed equity investment strategies using three approaches: integration, screening and thematic. Investors select between, or combine, these approaches based on their desired outcomes. This may be to enhance their risk-return profiles, avoid specific companies or sectors, or drive capital towards particular environmental and/or social goals.

The ESG integration approach is about adding ESG factors to financial analysis. Material ESG factors are identified and assessed alongside traditional financial factors when making an investment decision about a specific company or the overall portfolio structure, to lower risk and/or enhance returns. Investors apply a range of techniques to identify risks and opportunities that may remain undiscovered without analysis of specific ESG data and broad ESG trends. ESG integration typically has three steps:

- **Security research:** Identifying material ESG issues that impact equity valuations (or provide topics for corporate engagement).
- **Security valuation:** Integrating material ESG issues into financial analysis and valuation, for example by making adjustments to required rates of return, valuation multiples, forecasted earnings, cash flows and balance sheet strength.
- **Portfolio management:** Including ESG analysis in decisions about portfolio construction, for example through sector weightings.[9]

8 https://www.unpri.org/pri/an-introduction-to-responsible-investment

9 https://www.unpri.org/investor-tools/guidance-and-case-studies-for-esg-integration-equities-and-fixed-income/3622.article

POLICY: THE ROLE OF REGULATORS IN PROMOTING RESPONSIBLE INVESTMENT IN CHINA

Unlike in many developed markets, regulators are a key driving force in China of reforms and awareness raising on sustainable investment. ESG integration is now an area for research and discussion in China supported by policy reforms developed since the 2016 Guidelines on Establishing the Green Financial System.

The 2016 Guidelines laid the foundations of a sustainable financial system in China.[10] They set out rules for the development of the green bond market, green insurance, green lending, and other green and sustainable financial products and services.[11] Subsequent measures, initiatives, and guidance have helped progress and promote the sustainable investment agenda:

- In 2017, the China Securities Regulatory Commission ("CSRC") and the Ministry of Environmental Protection (MEP) signed an agreement to jointly develop a mandatory environmental disclosure framework for listed companies.
- In October 2018, the CSRC revised the Corporate Governance Code, incorporating new language specifying public companies' responsibilities to disclose ESG information. "Sustainable development" and "green development" were specified in the new document as guiding principles for public companies.
- In 2018, both the Shanghai and Shenzhen Stock Exchanges launched ESG information disclosure guidance, requiring public companies to publish ESG-related information on a "disclose or explain" basis. It is expected to come into full effect in 2020.
- In November 2018, the Asset Management Association of China published its first green investment guidelines, followed by a report on ESG integration.
- In 2020, following the 2017 agreement with MEP, the CSRC is expected to publish guidelines for mandatory corporate disclosure on ESG issues, which will improve the quality and quantity of ESG data from Chinese listed equities.

These reforms have motivated public companies to learn about ESG issues and study their impact on business operations. They have also started to have an impact on public markets and industry dynamics. More than 60% of companies listed on the Shanghai Stock Exchange disclosed some ESG information in 2018, a 235% increase from the previous year.[12] Among those, more than half disclosed voluntarily (e.g. not as part of the requirements of the environmental law). ESG issues and risks can have significant impacts on listing status: In October 2019, for example, a faulty vaccine scandal at a pharmaceutical company led to its delisting from the Shenzhen Stock Exchange.[13]

10 In China, the terms "green finance", "ESG investments", and "sustainable investments" are often used interchangeably to refer to similar ideas. Social issues and corporate governance are often incorporated as part of the broader definition of "green finance" or "green investment". While China is keen to develop its own localized version of ESG issues, most topics covered in these interchangeable terms are consistent with global norms. See for more details the report on ESG data in China: https://www.unpri.org/fiduciary-duty/esg-data-in-china-recommendations-for-primary-esg-indicators/4345.article and the report on Investor duties and ESG integration in China: https://www.unpri.org/fiduciary-duty/investor-duties-and-esg-integration-in-china/2915.article

11 In 2018, China became the second largest marketplace for green bonds worldwide, reaching USD42.8 billion, from close to 0 in 2015. Source: https://www.climatebonds.net/resources/reports/china-green-bond-market-2018

12 https://www.unpri.org/fiduciary-duty/esg-data-in-china-recommendations-for-primary-esg-indicators/4345.article

13 http://www.xinhuanet.com/fortune/2019-10/09/c_1125080707.htm

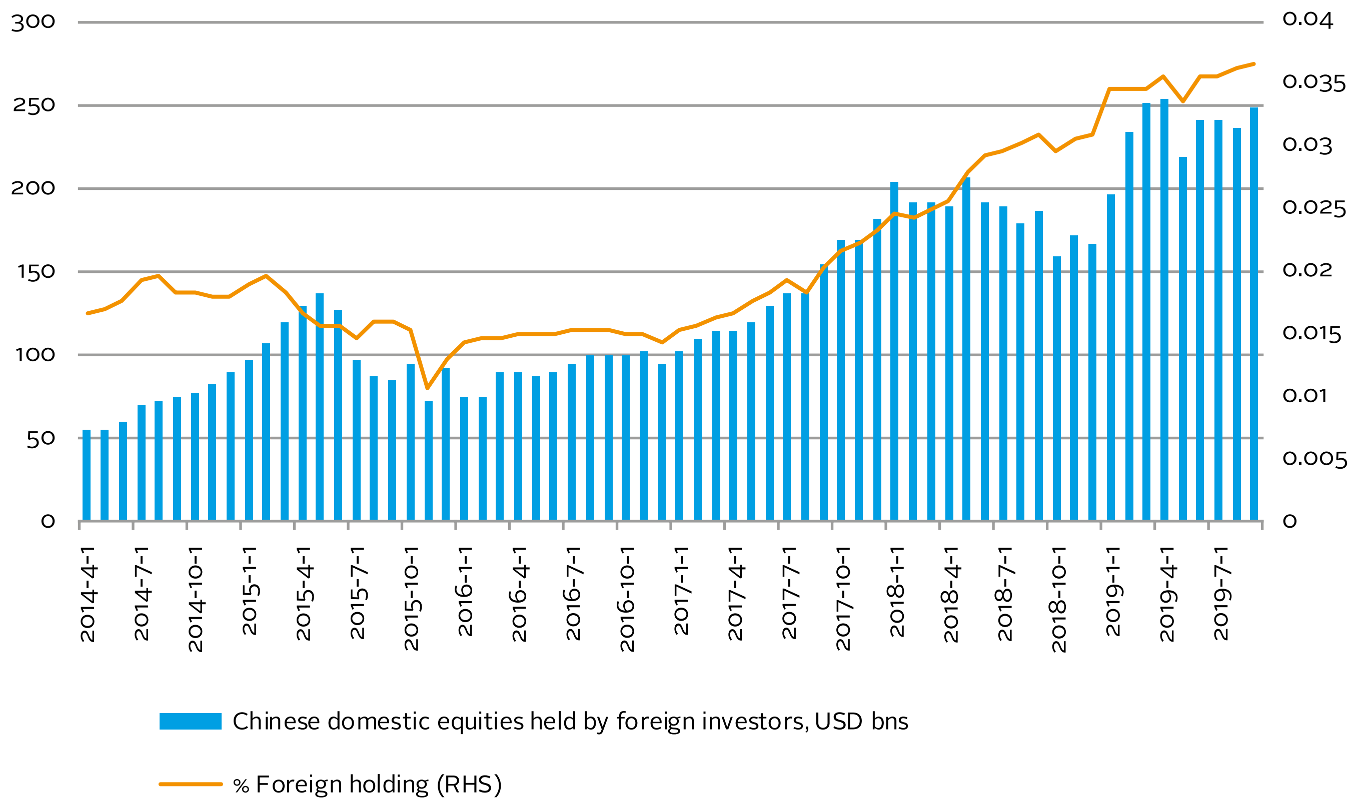
GLOBALISATION: THE OPENING UP OF CHINA'S INVESTMENT MARKETS TO INTERNATIONAL INVESTORS

The opening up of China's markets to international investors[14] and the inclusion of Chinese equity and fixed income securities in global benchmarks may lead to increasing integration of ESG factors in investment research and decision making.

Historically, poor data quality and under-representation in major global benchmarks has been an issue for ESG investors interested in increasing their exposure to the onshore Chinese equity market. This is now changing. Chinese asset managers have made progress in expanding their ESG research capabilities, while regulation has encouraged disclosure and onshore Chinese companies have increasingly been included in global benchmarks.

MSCI's incremental inclusion of China's onshore A-shares in its benchmarks has raised the profile of Chinese companies and their ESG records. In Q3 2019, the percentage of foreign investors in the onshore China A-shares equity market was 3.5%. In the first nine months of 2019, global investors increased their allocation to the China A-shares market by approximately US$23.56 billion, via the Shanghai – Hong Kong Stock Connect. The capital inflows and increased focus on ESG performance has led to greater awareness over how ESG is impacting business models, operations, and overall performance.

Fig.1: Percentage of foreign ownership of Chinese equities. Source: Bloomberg



14 China is accelerating the pace to open up the financial industry: in July 2019, the State Council published 11 measures aiming to lower the barriers for global investors to invest in China and for Chinese investors to invest abroad.

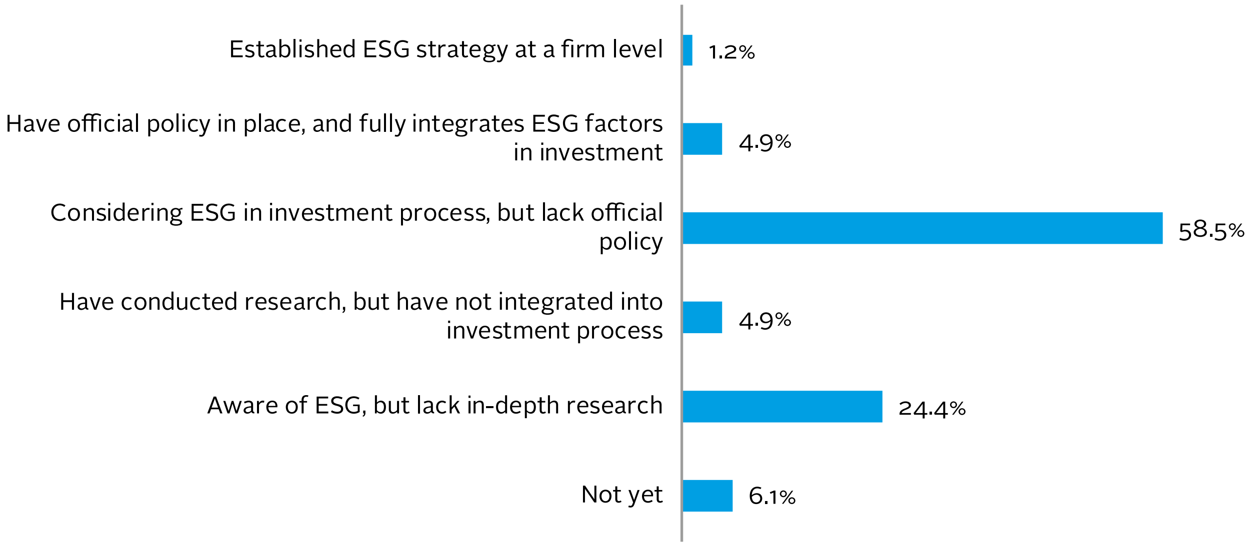
BOX 2: AMAC'S 2018 ESG SURVEY

The Asset Management Association of China (AMAC), the self-regulatory organisation for Chinese asset managers, conducted a survey of emerging practices around responsible investment and incorporation of ESG factors in 2018.[15] The survey shows Chinese asset managers have an understanding of ESG issues but often lack systematic processes to incorporate them into traditional investment analysis and decision making.

Among the 82 respondents to the survey, over 90% agree that ESG issues are a fundamental part of investment management. Over 70% utilise some combination of positive screening or negative screening, and over 80% consider ESG issues in the investment products they manage. Some 96% of the managers surveyed believe ESG considerations are important to improving long-term corporate financial performance, and 94% agree that ESG considerations are important to improving investment returns.

In terms of the value added by ESG incorporation, 68% of respondents cite Alpha generation and 24% cite risk mitigation. A lack of reliable disclosure, subpar ESG data quality and inadequate third-party research are highlighted as primary challenges to ESG integration.

Fig.2: Status of ESG incorporation among Chinese asset managers. Source: AMAC



15 https://mp.weixin.qq.com/s/aboyL53QyLT_8oNmB3V-rw

RETURNS: ESG AS A SOURCE OF ALPHA

A PRI study, using data from MSCI ESG Research for companies in the MSCI Emerging Market Index and the MSCI China Index[16], as well as local asset manager examples in the China A-shares market, found that ESG data incorporation in investment analysis suggests it is a source of Alpha.

OVERVIEW – ESG AND FINANCIAL RETURNS[17]

Since the early 2000s, there has been an increasing body of academic and industry research on ESG and returns. One seminal meta-study by Deutsche Asset & Wealth Management and University of Hamburg reviewed more than two thousand academic papers published since 1970. The 2015 study showed that a significant majority of reports identify a positive correlation between ESG factors and corporate financial performance.[18]

Most academic and industry work focuses on identifying correlations between ESG factors or rankings and returns. Few try to establish or explain causation between better ESG performance and improved corporate financial performance, or portfolio excess returns. There is also some confusion around the relationship between ESG factors and associated scores and ratings. These measure how well security issuers perform relative to their peers. Sometimes they are aggregated measures of ESG performance and sometimes they reflect only a single aspect. They can help investors make more informed decisions but do not capture the implications of factors or trends on corporate or issuer balance sheets, profit and loss accounts or cash flows.

Various pieces of research and commentary identify correlations between ESG rankings and financial metrics such as quality, price to book, profitability, volatility, returns and market capitalisation. These relationships often vary in strength depending on the time period and geography selected. One notable and repeating correlation is between ESG rankings and emerging market equity returns. Many reports split ESG rankings – again showing different correlations, with most (but not all) surveys identifying governance as the metric with the strongest and most consistent correlation with returns – across both fixed income and equity asset classes. The strength of correlations also varies over time, with some studies highlighting that correlation increases during periods of raised market volatility or market disruption. This was observed across various asset classes.

Another feature of some industry and academic research was the positive or negative change or rate of change in ESG ratings which provided an 'interesting signal' in terms of asset returns.

Alongside geography and time, correlations between corporate financial performance and ESG rankings varies between industrial sectors, with a closer correlation in sectors with a greater reliance on heavily-regulated activities or those which required a 'social' licence to operate. For example, sectors such as resources, consumer and utilities had a stronger statistical relationship between ESG and corporate financial performance.

16 MSCI Inc. and MSCI ESG Research LLC contributed data and ratings information to this report. None of such data or information should be construed as support for or endorsement of the views or conclusions represented herein. MSCI ESG Ratings are provided by MSCI ESG Research LLC, a wholly owned subsidiary of MSCI Inc. that is registered with the U.S. Securities and Exchange Commission as an Investment Adviser under the Investment Advisers Act of 1940. MSCI ESG Ratings are used in the construction and calculation of MSCI ESG Indexes. MSCI Indexes are products of MSCI Inc. and are administered by MSCI Limited. MSCI Limited is authorized by the United Kingdom's Financial Conduct Authority ("FCA") as a UK/EU benchmark administrator. MSCI Limited is listed on the FCA's register and on the ESMA register for benchmark administrators.

17 Adapted from https://www.unpri.org/pri-blog/research-highlights-evolving-esg-landscape/5223.article

18 https://institutional.dws.com/content/_media/K15090_Academic_Insights_UK_EMEA_RZ_Online_151201_Final_(2).pdf

ANALYSIS OF MSCI ESG DATA FOR THE MSCI EMERGING MARKETS AND MSCI CHINA UNIVERSE

PRI analysis of MSCI ESG Research data to evaluate portfolios that systematically select stocks with superior ESG characteristics (best-in-class) and high-capacity portfolios that systematically incorporate ESG profiles into weighting of stocks (tilting strategy) show that these portfolios deliver Alpha. The analysis is based on publicly-available indices for the MSCI Emerging Markets universe and the MSCI China universe.[19]

The analysis builds on PRI's U.S. study, which shows the efficacy of ESG strategies in developed markets.[20] It is based on MSCI Emerging Markets and MSCI China indices[21] and uses available data to compare the ESG version of the strategies with their non-ESG benchmarks from June 2013 to June 2019. Although MSCI has not launched an ESG Leaders Index for the China A-shares market and there is only a small amount of times series data for the MSCI China A ESG Universal Index[22], it may be possible to draw conclusions and provide a basis for further analysis and research. Still, this initial research is aligned with findings in other industry and academic research, which are that various ESG factors seem to be correlated with returns. The research does not provide any explanation of causation.

The analysis indicates that both best-in-class (ESG Leaders Index in the figures 3 to 8) and tilting strategies (ESG Universal Index in the figures 3 to 8) deliver Alpha and relatively lower maximum drawdowns over their respective benchmarks (Figures 3 and 7). The efficacy of ESG factors in delivering stronger risk-adjusted returns is more pronounced in the MSCI China universe than in wider emerging markets (Figure 3).

Emerging market results support ESG efficacy in both best-in-class and tilt strategies in equity investing: ESG information offers Alpha opportunities in the universes studied and may enhance risk-adjusted returns over traditional benchmarks. Our analysis of best-in-class and tilt strategies based on ESG scores shows increased Alpha against their respective benchmarks. The best-in-class strategies for each universe delivered higher risk-adjusted returns than their tilting counterparts. Between universes, PRI found that the ESG factor's Alpha generation capability in China equities was above its effect in emerging market equities in the period June 2013 to June 2019.

There are company-specific factors or metrics attributed to the majority of the outperformance of the ESG Leaders indices and ESG Universal indices in both emerging markets and China (Figures 5 and 8). These factors are not geography-, currency- or industry-related, and in this case could be due to companies' varying ESG scores. Additionally, the ESG indices for both emerging markets and China show higher EPS growth than their benchmarks.

Fig.3: Performance summary: Emerging markets vs. China. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019

	Emerging markets			China		
	MSCI Emerging Markets Index	MSCI EM ESG Leaders Index	MSCI EM ESG Universal Index	MSCI China Index	MSCI China ESG Leaders Index	MSCI China ESG Universal Index
Return (%)	4.7	6.9	5.1	8.9	13.6	9.8
Risk (%)	15.2	14.8	15	20.3	21	20.4
Sharpe ratio	0.25	0.41	0.28	0.4	0.61	0.44

Note: All risk and return figures are annualized, based on gross daily index total returns in USD.

19 The MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 703 constituents, the index covers about 85% of this China equity universe. Currently, the index includes Large Cap A and Mid Cap A shares represented at 20% of their free float adjusted market capitalization. For definition, please refer to MSCI's index methodologies presented in appendix. For clarity, MSCI's ESG Leaders Indices (best-in-class) and ESG Universal Indices (tilting) were used for analysis.

20 https://www.unpri.org/listed-equity/the-pris-esg-and-alpha-study/2740.article

21 MSCI indexes used in this analysis: MSCI China ESG Leaders Index, MSCI China ESG Universal Index, MSCI Emerging Markets ESG Leaders Index, MSCI Emerging Markets ESG Universal Index.

22 MSCI China A ESG Universal Index was launched on Aug 03, 2018 https://www.msci.com/documents/10199/feeed27d-328c-2491-2196-37c8cd2db34b

Fig.4: Summary statistics: Emerging market strategies. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019

	MSCI Emerging Markets Index	MSCI EM ESG Leaders Index	MSCI EM ESG Universal Index
Return (%)	4.7	6.9	5.1
Risk (%)	15.2	14.8	15
Active Return (%)	0	2.2	0.3
TE (%)	0	2.6	1.2
Sharpe Ratio	0.25	0.41	0.28
Beta	1	0.96	0.98
Active Share (%)	0	50.8	21.7
Trailing PE	13.6	15.4	13.7
Forward PE	11.3	12.8	11.7
YoY trailing EPS Growth	0.2	2.5	1.7
Max Drawdown (%)	35.2	30.5	33.8

Note: All risk and return figures are annualized, based on gross daily index total returns in USD. Active share, market cap, valuation data and EPS growth are monthly average.

Fig.5: Performance attribution: Emerging market strategies. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019

	MSCI EM ESG Leaders Index	MSCI EM ESG Universal Index
Active Return (%)	2.18	0.3
Country (%)	-0.27	-0.2
Currency (%)	0.13	0.07
Risk Indices (%)	0.14	-0.02
Industry (%)	0.25	0.22
Specific (%)	1.93	0.24

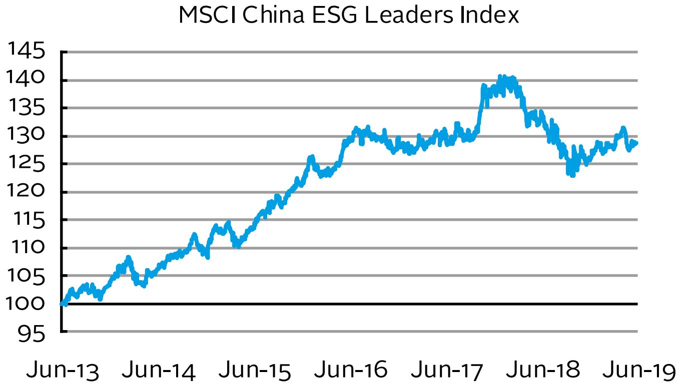
Note: Returns and contribution are annualized. The analysis is based on Barra Emerging Market Model (EMM1).

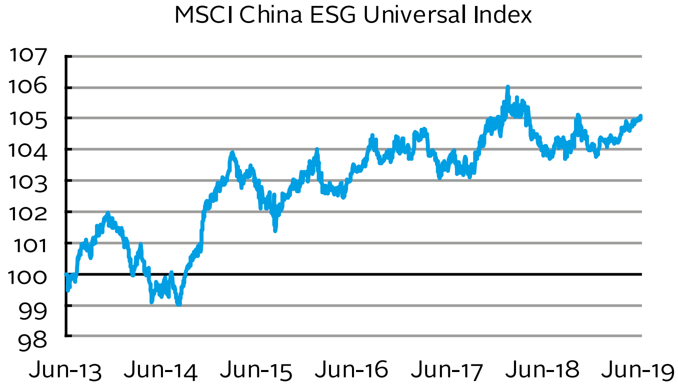
Over the period covered, the MSCI China ESG Leaders Index outperformed the MSCI China Index by 4.7 percentage points per annum, while the MSCI China ESG Universal Index outperformed the MSCI China Index by 0.9 percentage points per annum. The MSCI China ESG Leaders Index generated higher Alpha at higher active share levels but delivered a portfolio with a significantly higher Sharpe ratio and trailing earnings per share growth than the MSCI China ESG Universal Index (Figure 7). Still, the relative return of the MSCI China ESG Leaders Index in 2018's bear market was negative (Figure 6).

The overall Alpha profile for the MSCI China ESG Leaders Index was more volatile than the MSCI China ESG Universal Index (Figures 6 and 7).

Stock-specific factors were a significant source of Alpha. In both the MSCI Emerging Markets Index and MSCI China Index, the ESG leaders and tilt portfolios tended to have higher PE ratios (trailing and forward) and higher earnings per share growth rates (Figures 4 and 7). This may indicate better growth prospects among companies operating with higher ESG standards.

Fig.6: Relative performance of China ESG strategies vs. MSCI China. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019





Note: Relative Performance is calculated as a ratio ESG Index / Parent Index

Fig.7: Summary statistics, China strategies. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019

	MSCI China Index	MSCI China ESG Leaders Index	MSCI China ESG Universal Index
Return (%)	8.9	13.6	9.8
Risk (%)	20.3	21	20.4
Active Return (%)	0	4.7	0.9
Tracking Error (%)	0	5.6	1.7
Sharpe Ratio	0.4	0.61	0.44
Beta	1	0.99	1
Active Share (%)	0	59.8	17.6
Trailing PE	12.4	13.2	11.6
Forward PE	10.7	11.5	10.1
YoY Trailing EPS Growth	1.8	5	3.3
Max Drawdown (%)	42.1	39.3	41.9

Note: All risk and return figures are annualized, based on gross daily index total returns in USD. Active share, market cap, valuation data and EPS growth are monthly average.

Fig.8: Active risk and return factor attribution, China strategies. Source: MSCI. Data from Jun 28, 2013 to Jun 28, 2019

	MSCI China ESG Leaders Index	MSCI China ESG Universal Index
Active Return (%)	4.69	0.91
Country (%)	-0.06	-0.07
Currency (%)	0.02	0.02
Risk Indices (%)	0.72	0.32
Industry (%)	0.52	0.14
Specific (%)	3.49	0.50

Note: Returns and contribution are annualized. The analysis is based on Barra Emerging Market Model (EMM1).

MARKET INSIGHT: FIVE EXAMPLES OF INVESTOR PRACTICE

The key challenge in this study is the availability of ESG data, both in terms of quality and quantity. Despite that, there are indications that better ESG performance is correlated with better financial performance. To support the market analysis above, this report presents examples from five asset managers:

- China Asset Management Company Co., Ltd.
- E Fund Management Co., Ltd.
- Harvest Fund Management Co., Ltd.
- Hwabao Fund Management Co., Ltd.
- BNP Paribas Asset Management Co., Ltd.

The examples offer insight into the following questions:

1. Why are investors considering ESG issues when investing in China?
2. Does ESG performance have an Alpha-generating advantage over a broad index?
3. How can we use ESG data, factors and information in the investment decision making process?
4. What are the types of insights we can generate using ESG-oriented analysis and what is the impact on investment returns?

These examples aim to provide empirical support for the efficacy of ESG research in the Chinese market. They also offer insights into the various aspects of ESG incorporation.

While the quality of ESG data remains an issue, investment managers have found ways to utilise ESG-oriented insights and information to enhance their understanding of industries and companies. China AMC used ESG considerations to validate fundamental insights and as potential flags for risk management. E-Fund and Hwabao leveraged their perceptions of environmental risks and company management capabilities to enhance their understanding of industry competitive dynamics, which in turn helped portfolio managers make investment choices. Harvest applied a proprietary ESG framework and methodology to conduct quantitative ESG analysis across the A-share market. BNP Paribas Asset Management identified three sources of Alpha from sustainable investment practices: pricing of avoided risk, ESG momentum and the benefit of stewardship, and identifying opportunities through key ESG issues.

CHINA ASSET MANAGEMENT CO., LTD.

China Asset Management Co., Ltd. ("ChinaAMC") developed a six-step ESG integration process referencing PRI's guidance and global best practice, which it offered to selected clients. The steps comprise:

- determining sustainable investment objectives;
- sector and security analysis;
- portfolio management;
- risk management;
- company engagement;
- reporting.

The ESG team at ChinaAMC conducts in-depth research on ESG issues in the context of the relevant company's competitive advantages, leveraging in-house criteria specific to A-share markets and Chinese firms. ChinaAMC believes a focus on ESG issues can promote sustainable growth for Chinese companies and generate Alpha in China's semi-efficient market.

USING FUNDAMENTAL INSIGHTS TO COMPLEMENT FACTOR-DRIVEN MODELS AND UNIVERSAL FRAMEWORKS

Given quantitative back-tests in ESG research may yield useful insights, ChinaAMC applies factor-driven models to determine the significance of ESG issues.[23] In the absence of high-quality data, fundamental research and insights are also used. ChinaAMC has developed an in-house ESG framework to analyse material and sector-specific ESG issues with a China focus. Picking out the most significant ESG-related performance drivers enables more effective stock screening.

In the example of real estate, third party data may not be sufficient to analyse specific issues relevant to the industry in China. ChinaAMC therefore supplements third party research with localized analysis. This would, for example, include checks on off-balance sheet financing and profit shifting. As shown in the following chart, in-house adjusted ESG scores reflect a range of perspectives and expose the risk of tunnelling, helping portfolio managers manage governance risk when selecting stocks.

Fig.9: China AMC example of real estate companies' ESG analysis. Source: China AMC

	Company A	Company B	Company C	Company D	Company E
Market Cap (bn RMB)*	297.92	180.28	154.56	86.27	83.18
ChinaAMC Add-ons:					
Pledge of Shares	●●●	●●●●	●●	●	●●
Financial Sustainability	●●	●●●	●●	●●	●
Off-Balance Sheet Financing	●●●	●●●	●●●●	●●	●●●●
Accounting Governance	●●●	●●●●	●●	●●●●	●●●●
Potential Profit Shifting	●●●●	●●●●	●●●	●●●●	●●
Total Adjusted Scores	6.73	7.14	6.49	5.87	5.82

* ●●●●: 1st quartile in peers; ●: 4th quartile in peers. Information is as of September 30, 2019.

23 The use-case of ESG key issues and observations may reveal contrasting results from global norms but still generate useful fundamental insights. Certain key issues may require additional market developments to become material. For example, appropriate level of management compensation may incentivize executives to enhance company profit generation, which aligns with shareholders' interest and reduce agency costs. However, the result was counterintuitive - the factor only passed IC tests for the Consumers sector, which may indicate that companies producing and selling consumers goods rely more heavily on management's strategy compared to industrial and energy companies. In this case, management risks should be weighted more within the corporate governance pillar for this industry.

ESG INTEGRATION IN RISK MANAGEMENT FOR DOWNSIDE PROTECTION

Risk management is an integral part of the investment process. Starting in 2018, ChinaAMC implemented a firm-wide risk management screening system for ESG controversies. Key words are monitored on local regulatory communications and selected media sources and are captured and mapped to companies in the stock pool. Risk flags are sent to portfolio managers and analysts. Investment staff then provide feedback on the controversies to the risk management team, which decides whether to temporarily exclude the stock.

In 2019, the ChinaAMC risk team observed an announcement by Beijing Municipal Ecological Environment Bureau declaring that a public company was alleged to have replaced qualified pollution-control devices with inferior alternatives and may face significant penalty. ChinaAMC's ESG team and research analyst was immediately alerted. Subsequent research showed that the faulty engines were produced by the company's supplier and the company was not liable for the fines. However, this also reflected the company's inability to implement stringent quality controls through its supply chain, which makes it susceptible to similar reputational risk and legal costs in the future. Such insights help the portfolio management investment research teams to enhance their understanding on invested companies.

EXERCISING ACTIVE OWNERSHIP THROUGH ESG ENGAGEMENT

As a supporter of TCFD and CA100+, company engagement plays an important role in ChinaAMC's ESG incorporation program. ChinaAMC's participation in collaborative engagements with public companies in China have yielded valuable insights for investment managers. Since 2018, ChinaAMC has had conversations with Chinese companies in the food and beverage, oil and gas, construction material, health care, and manufacturing sectors. These meetings between investment managers and company executives focused on enhancing ESG disclosures and sustainability practices. In addition, engagement enabled constructive dialogue, which may improve corporate leaders' understanding of sustainability issues and the quality of their ESG disclosures.

In a collaborative engagement effort on one of China's major coal miner and power producer, ChinaAMC recently engaged with members of the CA100+ group to promote the company's carbon emission control and relevant information disclosure. Interactions with the firm's executives provided insight into the firm's technological advancements on energy efficiency and pollution reduction, and yielded valuable insight into its plans to adhere to China's commitment to the Paris Agreement. As a result of the collaborative efforts, the firm decided to report to the Carbon Disclosure Project ("CDP") for the first time in 2019.

E FUND MANAGEMENT CO., LTD.

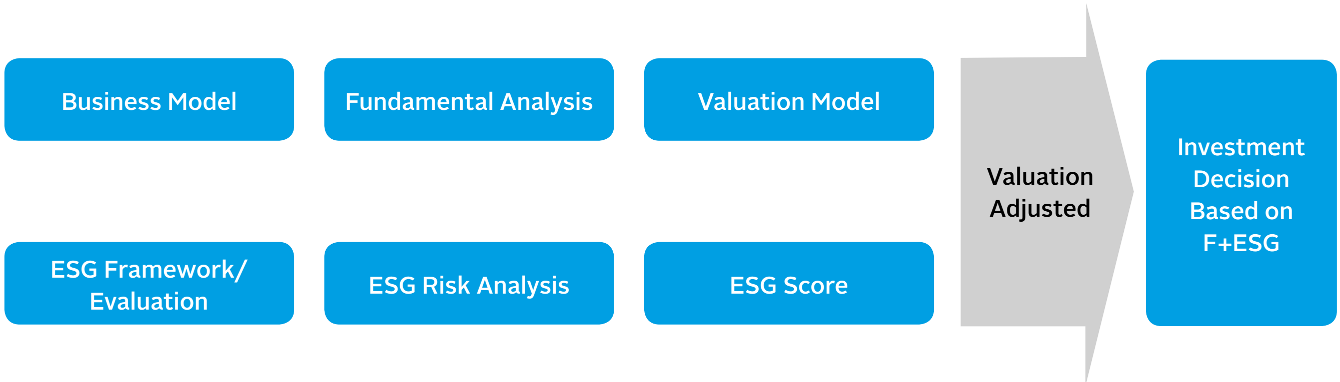
In pursuit of long-term sustainable returns for its clients, E Fund Management Co., Limited incorporates ESG factors into its investment research framework. In E Fund's investment philosophy, companies that perform well on ESG issues will be more likely to benefit from enhanced long-term competitive advantages, reduced downside risks and strengthened reputation.

Good corporate governance may lead to higher profits, lower expenses and more innovation. It also reduces volatility by lowering financial risks and reducing financing costs. Companies adhering to sustainability principles and adopting higher environmental and social standards are more likely to create a positive brand image and to offer high-quality products and services, which in turn will enhance client loyalty and employee motivation.

INTEGRATING ESG INTO THE RESEARCH AND INVESTMENT PROCESS

E Fund's ESG evaluation is conducted in parallel with fundamental analysis (Figure 10). ESG scores are applied to valuations and are incorporated into investment decisions.

Fig.10: E Fund ESG evaluation combined with fundamental analysis. Source: E Fund



INCORPORATING SPECIFIC ESG ISSUES INTO INVESTMENT RESEARCH AND ANALYSIS

In 2017, the Ministry of Ecology and Environment of China published the "Regulations on a List of Key Pollution Entities". These regulations emphasized four major areas of pollution – water, land, air, and noise – each covering a variety of industries. The ESG research team concluded that the government would enforce stringent pollution control and decided to pay more attention to environmental risks in certain industries, including mining, metal smelting, and chemicals. The following measures were implemented:

1. **Developing an analytical framework:** To analyze the environmental performance of companies, E Fund Management's ESG research team constructed a framework consisting of four factor sets and specifically focusing on environmental protection.
2. **Rating and scoring environmental performance:** Using the Analytical Framework as guidance, analysts and portfolio managers are able to rate each factor based on in-depth research. The environmental assessment is converted into a quantitative score.
3. **Valuation adjustments based on environmental scores:** Analysts and portfolio managers set themselves up to use environmental scores to guide valuation adjustments. Portfolio managers employ the adjusted valuation to make investment decisions.
4. **Making Better Investment Decisions:** Using the ESG integrated investment process, portfolio managers can make better and more objective decisions. ESG analysis serves as an important supplement to fundamental analysis and provides insights that portfolio managers previously overlooked.

In early 2018, E Fund Management conducted an analysis of two chemical companies in the China A market, which have similar business models and fundamentals. Analysis of their environmental practices concluded that Company Y had lower environmental risks than Company H. Company H's target price-to-earnings ratio was therefore lowered from the industry average to reflect embedded risks. Because environmental risks were previously not fully considered, Company H was re-evaluated as overpriced and the outlook was switched to negative, meaning that its investment value was lost.

Fig.11: example of E Fund company analysis on environmental risks

	Company Y	Company H
Exposure to environmental risks	High	High
Environmental risks management	Self-owned sewage management system above government-required standards	Poor environmental risks management
Environmental-related investment and disclosure	Consistent investment in various sewage and disposal projects, good disclosure in annual reports since 2007	Cumulative capital expenditures disclosed without details in recent years
Historical controversy events	Little fined records and three negative news announcements in the past three years	Fined many times for environmental violations, and numbers of negative news announcements in the past three years
Total Environmental score	**High (comparatively lower environmental risks)**	**Low (comparatively higher environmental risks)**

After the initial analysis in early 2018, the asset manager has monitored the performance and share prices of the two companies:

- In April 2018, Company H received another penalty from the Ministry of Ecology and Environment, and one of its subsidiaries was forced to shut down.
- In May 2018, Company H's senior managers came under investigation. Operations were momentarily suspended.
- From June to September 2018, numerous managers of Company H resigned, even though operations partially resumed. However, the company was under investigation by the CSRC.
- In fiscal year 2018, Company H wrote down sizable costs related to environmental protection, and its operations were mostly suspended.
- Company Y faced a similar level of environmental pressure, but its operations were mostly intact. Revenues of Company Y were boosted as supplies fell, owing to the shutdown of other smaller competitors.

Fig.12: Stock performance since evaluation (data recorded in Feb 2020). Source: E Fund & WIND

Performance (%)	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	Total
Company Y	-3.60	16.76	-17.11	-18.77	46.95	-1.16	-8.96	37.81	38.12
Company H	-19.73	-35.46	-17.95	-14.29	41.67	5.51	2.09	-2.39	-45.73
Benchmark	-3.50	-9.97	-5.54	-16.81	29.81	-10.92	-1.33	8.87	-15.19

Based on this example, E Fund Management made better investment decisions because it took environmental considerations into account. Similar processes may be applied to social and governance considerations. The ESG analysis framework can serve not only as an assessment tool for evaluating a company, but also as a safeguard for mitigating tail risk. This reflects one of the key advantages of ESG —reduced downside risk, which can be amplified over a longer holding period.

HARVEST FUND MANAGEMENT CO., LTD.

Harvest Fund Management is committed to delivering long-term sustainable returns to its investors. Starting in 2018, Harvest gradually developed its ESG research capabilities and now has a team of five ESG specialists, supported by data scientists and quantitative analysts. The team is focused on various aspects of ESG research, integration and strategy development and has members located in Beijing and Hong Kong. Through research and quantitative analysis, which supplements data that may be insufficient, ESG incorporation can generate Alpha and mitigate downside risks. Equally, investors in China may enhance the quality of their investment returns by considering ESG issues when making investment decisions.

HARVEST'S APPROACH TO ESG INTEGRATION

Harvest has launched an initiative for ESG integration across its entire investment research platform, aiming to incorporate material ESG issues and information relating to fixed income and equity investments. Transitional risks from lack of long-term perspectives may be reflected in portfolio returns if not anticipated in advance. Certain ESG issues may not be material, or as material today as in developed markets, but may become increasingly relevant as regulations and enforcement efforts ramp up, and will therefore be reflected in financial performance over time. As China's drive towards a sustainable economy continues, it will more emphatically push for environmental protection, social responsibility and good corporate governance practices.

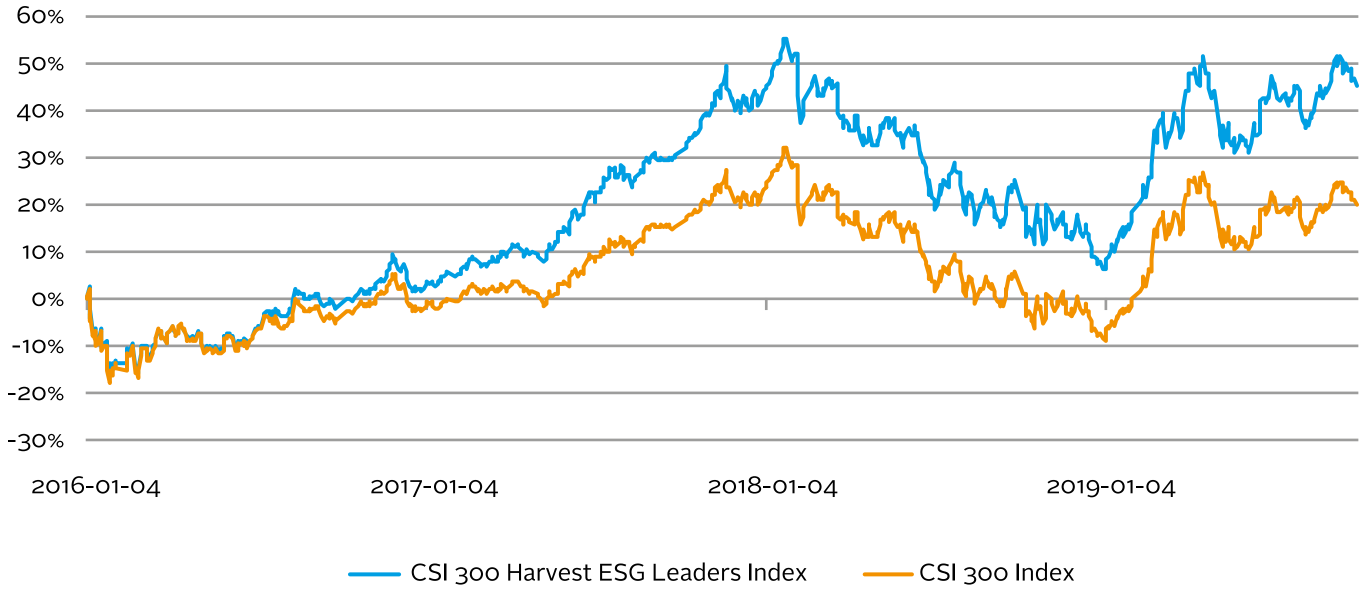
Harvest's ESG team is tasked with guiding the investment team through this transitional phase via joint research efforts, training and discussion. The ESG team regularly meets with portfolio managers to ensure they thoroughly understand ESG risks. Harvest believes that this is a critical aspect of fulfilling its fiduciary duty.

Harvest developed its proprietary ESG research and analytical framework based on research into global frameworks and local expertise, combining material local ESG issues with global best practice. By integrating insights from equity analysts, credit analysts and ESG analysts, Harvest's research methodology provides granularity and materiality that is relevant for the Chinese market and globally. Harvest improves ESG data quality using artificial intelligence and natural language processing to extract and process unstructured data from a variety of public sources. The results of these initiatives are helping portfolio managers to systematically identify and understand issues that are increasingly material to investment outcomes, especially during China's rapid transition towards a sustainable economy.

ESG FACTORS ARE MATERIAL AND CAN GENERATE ALPHA

In November 2019, China's indexing company, the China Securities Indexing Co., Ltd. ("CSI") published the CSI 300 Harvest ESG Leaders Index, a China A ESG best-in-class selection index customized by Harvest Fund Management. The index has delivered 5.6% in annualized excess returns over that period while maintaining a tracking error below 3.0%. The index was developed on the back of almost two years of research, data validation, and index construction. The CSI 300 Harvest ESG Leaders Index uses the CSI 300 index, the broad-market benchmark most popular in the domestic Chinese equity markets, as its underlying benchmark. Constituents of the CSI 300 index were scored using Harvest's proprietary ESG methodology, which only contains quantitative ESG issues and metrics and does not utilize any traditional financial metrics. This is aligned with globally recognized best-in-class selection type of ESG indexes but in contrast with the existing ESG or sustainability related indexes for China A share market that commonly have significant sector tilts.

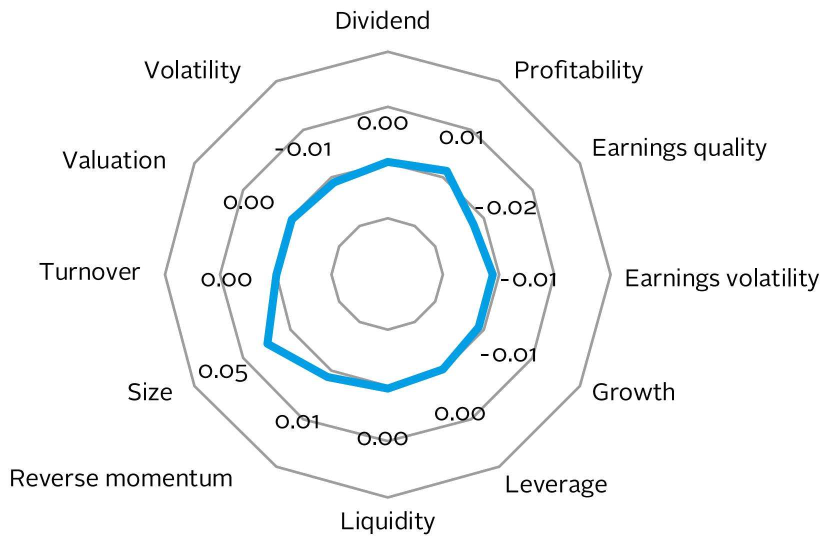
Fig.13: Back-tested performance of Harvest CSI 300 ESG Leaders index. Source: Simulated performance, Harvest Fund Management, from December 31, 2015 to September 30, 2019



The CSI 300 Harvest ESG Leaders Index was designed with sector-neutrality as part of its construction process. Harvest's ESG scoring methodology was designed to rank companies in the CSI 300 index based on ESG quality in their respective industries and then subsequently select the top 100 companies based on their free-float market capitalization. The sector-neutral design ensures that the relative performance of the ESG index and the benchmark CSI 300 Index reflects the Alpha-generating capability of Harvest's ESG approach without sector biases.

Harvest's ESG factors were subsequently tested for relative style correlation against other traditional smart-beta factors. At a correlation of less than 0.1, Harvest may have identified an effective method for generating additional risk-adjusted returns in the China A-shares equity market, supporting the Alpha generation capability of ESG factors and issues in China.

Fig.14: Harvest CSI 300 ESG Leaders index average factor exposure vs benchmark. Source: Harvest Fund Management



HWABAO WP FUND MANAGEMENT CO., LTD.

Hwabao considers that ESG factors may be material to both reducing tail risks and enhancing returns, especially in the China A-shares equity market, where marginal improvements may help reveal investment opportunities.

HWABAO'S APPROACH TO ESG RESEARCH THROUGH THE ANALYSIS OF THE PRINTED CIRCUIT BOARD ("PCB") INDUSTRY

China has emerged as the world's largest manufacturer of PCB boards, which is an important component in electronic devices. However, Chinese manufacturers are still behind global peers in technology and scale due to the highly fragmented nature of the PCB industry in China. At the same time, environmental issues are impacting the business landscape. An analysis of the environmental impact on the PCB industry is necessary to better understand future risks and opportunities.

The PCB industry faces pollution risk due to its complex production process. Traditionally, the industry has benefited from cost advantages from labor, land and a relatively relaxed environmental regulatory environment. But as China enhanced its focus on environmental protection over the past two years, the industry has gone through significant changes. Recently introduced environmental policies have increased inspection frequencies and penalties for PCB manufacturers, especially after China's Environmental Protection Laws came into effect on January 1, 2018. Many small and medium-sized PCB manufacturers are at risk of major facility overhauls or even closures due to poor environmental protection practices. Conversely, early adopters of sound environmental practices will likely benefit from further industry consolidation.

Fig 15: Recently published environmental policies in China relevant to the PCB industry

Date	Institution	Policy
2017/5/25	Ministry of Industry and Information Technology of People's Republic of China	"Action plan for energy conservation and standardization of green practices (2017-2019)"
2017/6/29	Ministry of Ecology and Environment	"Taxonomy for the categorical management of project environmental impact assessment"
2017/8/29	Ministry of Ecology and Environment	"Guidance for the development of project environmental impact assessment of dangerous waste materials"
2018/1/1	National People's Congress Standing Committee	Implementation of "Environmental Protection Tax Laws of PRC"
2018/6/7	Ministry of Ecology and Environment	Publication of "Enhanced inspection plans to protect the blue skies in key regions 2018-2019"

Leading players in the PCB industry in China continue to grow on the back of tightening environmental regulation. Although global PCB manufacturers boast some technological advantages in the mid-to-high segments, their home markets have matured or are even declining. Many Chinese PCB manufacturers are actively upgrading their production capacity and technological sophistication to increase their global market share. The Chinese PCB industry is most likely over time to become more efficient and consolidate towards industry leaders with sound environmental practices.

IDENTIFYING INVESTMENT OPPORTUNITIES THROUGH ESG RESEARCH AND DUE DILIGENCE

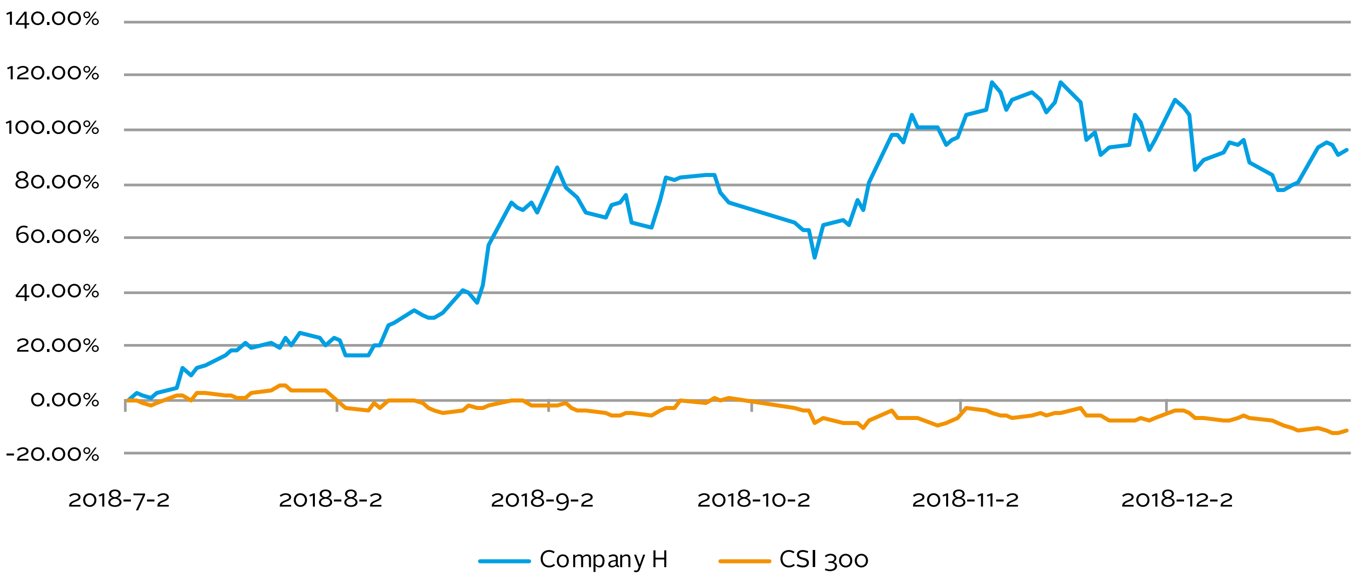
Analysis of ESG practices in Chinese PCB manufacturers may identify companies with sustainable competitive advantages in the medium-to-long term due to two considerations. First, PCB companies may only survive if they are focused on and invest in cleaner environmental practices. Smaller players, meanwhile, may be forced to close, accelerating the consolidation trend. Industry leaders will be able to adhere to higher environmental regulations by dedicating additional investments and professional teams. These rising environmental protection related investments and expenses may force closure of smaller players, which subsequently may result in further industry consolidation. Additionally, PCB firms will require significant innovative capabilities to stay competitive in the long-term. Investment in research and development, creating barriers to entry, is key to sustainable development in the PCB industry.

In one industry example, Company H was identified as an attractive opportunity due to its sound fundamentals and strong ESG practices. The company was committed to its long-term strategy as an environmental-friendly company and had increased investment in related activities. It had set up a dedicated Department of Environmental Management unit to oversee its efforts. The company was also heavily focused on research and development, enabling it to produce higher-end products. Given these factors, Hwabao's research analysts recommended Company H in the third quarter of 2018.

Fig.16: Company H information. Source: Company financial statements

	2015	2016	2017	2018
Operating income (100 million)	33.77	37.90	46.27	54.97
Net income (100 million)	0.06	1.31	2.04	5.70
ROE (%)	0.17	3.88	5.83	14.23
Environmental protection input (100 million)	/	0.36	0.58	0.74
R&D input (100 million)	1.13	1.48	1.89	2.43
R&D investment/Operating income (%)	3.36	3.91	4.09	4.42
R&D staff ratio (%)	8.93	10.88	11.33	12.72

Fig.17: Company H stock price performance



Integrating ESG considerations into investment analysis as described above could help generate Alpha in the China A-share market. For certain industries, analysis of marginal changes in ESG issues is critical to understanding their impacts on industry dynamics. Investment decisions can then be built on the foundation of better long-term industry forecasts and generate higher returns.

BNP PARIBAS ASSET MANAGEMENT

BNP Paribas Asset Management is focused on achieving long-term sustainable investment returns for our clients. BNP Paribas Asset Management believes that sustainable investment practices, including ESG integration and active ownership, can supplement traditional decision making by considering a broader set of tools, data sets and thematic shifts. This can lead to better information, decision making and risk adjusted returns as well as more sustainable, robust and inclusive economic growth.

BNP Paribas Asset Management is committed to integrating sustainable investment practices across all our strategies by 2020, as outlined in its Global Sustainability Strategy, launched in March 2019.

There are four pillars to BNP Paribas Asset Management's sustainable investment approach:

- **ESG integration** - to enhance investment decision-making by assessing ESG-related risks and opportunities of each investment.
- **Stewardship** - meaningful engagement with issuers (including voting) can enable to better understand and manage ESG risks on behalf of clients and benefit from Alpha opportunities associated with improving ESG momentum at portfolio companies.
- **Responsible business conduct** - to avoid reputational, regulatory and stranded asset risk, BNP Paribas Asset Management excludes companies deemed in violation of the UN Global Compact Principles or that are in breach of their sector policies. This results in roughly 2% of the investable universe (by market capitalisation) being excluded. BNP Paribas Asset Management generally prefer to engage with, as opposed to divest from, companies.
- **Building a sustainable future (the three E's)** - to enhance investment decision-making and guide our stewardship efforts, BNP Paribas Asset Management focuses on three thematic areas: a) Energy transition; b) Environmental sustainability; and c) Equality and inclusive growth. BNP Paribas Asset Management believes these 'three Es' are a necessary foundation for a prosperous, sustainable and inclusive economy.

BNP Paribas Asset Management identifies three sources of Alpha from sustainable investment practices.

PRICING OR AVOIDING RISK

Research has highlighted a negative correlation between volatility and company performance on ESG issues or scores[24]. Companies with higher ESG scores typically have lower volatility and are less likely to see significant declines in their share prices.

This implies that ESG analysis can be an important tool for investors to evaluate risk – in fact, one of the most common objectives of fundamental ESG integration is to enhance risk management. Specifically, many investors aim to reduce the likelihood of investing in a company that will experience a 'tail risk' event that results in value destruction. These tail risks could include a wide range of adverse events triggered by corporate governance, environmental performance or supply chain practices.

The escalation of China's focus on environmental issues is a prime example of the manifestation of policy risk. Following this shift, the newly established Ministry for Ecology and Environment issued over 166,000 penalty notices and US$2bn of fines in the first 11 months of 2018. In May 2019, the National Development and Reform Commission (NDRC) announced that it will reduce the number of small coal mines to help boost safety and lower pollution. In June 2019 the Shanxi Coal Mine Safety Administration advised that, in the first five months of 2019, it had carried out 2,167 inspections and halted production or construction at 82 mines.

Performance on environmental or social (safety) issues has become an increasingly salient risk for companies and investors in China. This has resulted in a shift in competitive advantage – companies with poor environmental and safety performance are increasingly at risk of fines, remediation costs or in extreme cases closure. However, companies with strong environmental performance are often well placed to benefit from industry consolidation or gain market share as non-compliant companies can no-longer participate in 'environmental arbitrage' and must reform their operations or exit the industry.

It is precisely these shifts and risks we at BNP Paribas Asset Management aim to identify, evaluate and factor into investment decisions through the use of ESG integration, direct engagement with companies and the use of our proprietary scoring ESG framework.

24 Journal of Portfolio Management, Volume 45, Number 5, July 2019;
ESG for All? The Impact of ESG Screening on Return, Risk, and Diversification, Journal of applied Corporate Finance, Vol.28, No.2, Spring 2016
ESG Matters, https://corpgov.law.harvard.edu/2020/01/14/esg-matters/

ESG MOMENTUM AND THE BENEFIT OF STEWARDSHIP

BNP Paribas Asset Management believes that meaningful engagement with issuers can benefit investments through the Alpha opportunities associated with improving ESG performance (ESG momentum) while also having a positive impact on the company and broader stakeholders.

The focus is on two (related) sources of Alpha from ESG momentum:

Valuation discounts
Investors will often seek to 'price' future risks either through an explicit reduction in forecasted cash flows or through increasing the discount rate applied to future cash flows to reflect increased uncertainty. This can result in company trading at a valuation discount (based on one-year forward earnings) relative to sector peers. Being able to partner with the company to improve either communication or management of the perceived risk could result in a re-rating of the company and stronger share price performance, as the uncertainty regarding the ESG risk is reduced or removed. This can also be a catalyst for the company to attract a broader range of shareholders with different risk profiles or values.

Improving fundamentals
There can be material financial benefits associated with improving performance on key ESG issues. For example: a) better resource efficiency (water, electricity, raw inputs) can provide cost savings; b) employee-training, a commitment to diversity and strong safety performance can help attract and retain talent, reduce hiring costs and increase service quality; c) better identification and management of key ESG risks can increase preparedness and reduce the negative impact from adverse policy shifts (i.e., a carbon tax or increased environmental regulation) or changes in consumer preferences (i.e., shift away from plastic, food security).

These can contribute to enhanced business resilience, reduced tail risk, stronger earnings growth, higher operating margins and increased return on capital.

IDENTIFYING OPPORTUNITIES

There have been a number of high-profile scandals relating to the treatment of labour or the environment in global supply chains. These scandals can have a material impact on a company's brand equity and bottom line – in particular for global consumer companies.

As garment manufacturing supply chains have diversified from China into Bangladesh, Vietnam and other markets, risks associated with supply chain oversight and control may have increased. As a result, suppliers that are able to demonstrate their reliability, transparency and commitment to high-quality practices can have a competitive advantage in attracting and retaining customers.

Shenzhou International Group is a Hong Kong-listed garment manufacturer with manufacturing assets in China and Vietnam. The company has been an important portfolio position for BNP Paribas Asset Management in Asia. Over the past five years the company has outperformed the local Hong Kong index by 326% and the MSCI ACWI by 318% (or 30% and 29% respectively per annum). However, other participants in the sector have seen more mixed share price performance and on average seven listed OEM companies underperformed the MSCI ACWI by 43% over the time period.[25]

BNP Paribas Asset Management's investment thesis for Shenzhou was supported by analysis of the company's performance on key ESG issues that complement their competitive advantage. The company's performance on key Environmental and Social issues reduces the risk of scandals and is a key factor behind their ability to attract and retain key international brands that have contributed to the company's success (Shenzhou is the largest apparel supplier to Uniqlo, Nike, Adidas and Puma).

Shenzhou's integrated business model and focus on production efficiency and operating scale also means the company is well-placed to respond to client demands for flexible lead times and diversified sourcing.

THE IMPORTANCE OF DATA

In the above examples, the foundation of our analysis is the availability of information to evaluate and assess company performance on important ESG issues. Although direct engagement with a company can be a valuable source of insight regarding ESG culture and performance, this is challenging to perform at scale. As a result, the lack of high quality numeric ESG data can be a significant constraint on an investor's ability to identify or assess a company's exposure and engagement with material ESG issues.

The introduction of mandatory ESG reporting requirements from 2020 is a positive development that could facilitate deeper stock analysis from investors and be a catalyst for increased engagement with the underlying ESG issues from corporates. Standardisation, comparability and a focus on disclosure of numeric data will be important elements to enhance the impact of the revised reporting requirements.

25 Data as of 30 Sept 2019

APPENDIX

MSCI Index construction

MSCI's best-in-class and tilting indices use the following methods:

- Universe selection: MSCI standard indices of large and mid-caps.
- Eligible companies: For the best-in-class indices (i.e. MSCI ESG Leaders Index), companies with MSCI ESG Ratings of "B" and "CCC" are excluded. All ESG ratings are eligible for tilting indices (i.e. MSCI ESG Universal Index). Companies with low controversy scores are eliminated from both indices, with best-in-class indices having a higher threshold than tilting indices.
- Controversial business involvement screening: Companies in the controversial weapons sectors are excluded from both indices; best-in-class indices also exclude alcohol, gambling, tobacco, nuclear power, conventional weapons, nuclear weapons, and civilian firearms.
- Security selection and weights, best-in-class indices: Companies with ESG ratings are ranked in the following order – ESG rating > ESG trend > ESG score > Free Float Market Cap.; and companies are picked in the following order within each GICS sector until 50% free float market cap coverage is reached – 1) securities in the top 35% cumulative float market cap coverage; 2) 'AAA' and 'AA' rated securities in the top 50% float market cap coverage; 3) remaining eligible securities.
- Security selection and weights, tilting indices: Securities are weighted based on a combination of ESG rating scores and ESG trend scores where higher ESG rating scores and higher ESG trend scores are given higher weights, which are then adjusted by their market capitalisation weight in the parent index (capped at 5% per security).
- Rebalance process: The best-in-class indices are rebalanced annually in May of each year, data as of the end of April is used; the tilting indices are rebalanced semi-annually in May and November, data as of the end of May and October are used. Existing constituents in the best-in-class indices are given priority if they meet all the selection criteria.
- Data period: The data period for the ESG momentum index (i.e. MSCI ESG Universal Index) was from June 28, 2013 to June 30, 2019, based on available data from MSCI ESG Research's database.
- Parent indices: The parent indices used to benchmark the regional and single country portfolios were the MSCI Emerging Markets and MSCI China indices.

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The Principles for Responsible Investment (PRI)

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

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

More information: www.unpri.org

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

United Nations Environment Programme Finance Initiative (UNEP FI)

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

More information: www.unepfi.org

United Nations Global Compact

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

More information: www.unglobalcompact.org