The Economist INTELLIGENCE UNIT

Green Intelligence

Asia's ESG investing, data integrity and technology

Sponsored by:

E Fund

Contents

About the research

Green intelligence: Asia's ESG investing, data integrity and technology is an Economist Intelligence Unit report, sponsored by E Fund. Dewi John is the author and Jason Wincuinas is the editor. The report analyses results from a survey of 300 senior and C-suite managers at institutional-investor organisations (including sovereign or pension funds, investment banks and insurance funds). Respondents were all located in Asia, specifically mainland China, Japan, Hong Kong, Singapore, South Korea and other ASEAN member nations. (Although Singapore is a member state of ASEAN, it was surveyed separately in this report. This was due to the depth and breadth of multinational and financial services firms in the country, as well as a significantly higher per-head GDP and the International Monetary Fund rating its financial sector oversight to be "among the best globally" in the annual Financial Sector Assessment Programme for 2019.)

In-depth interviews with experts in the fields of environmental, social and governance investing and financial services and artificial intelligence were also conducted in addition to extensive desk research and historical analysis.

Our thanks are due to the following individuals for their time and insights:

- Cary Krosinsky, lecturer, sustainable finance, Yale School of Management
- Elaine Ng, executive director, client coverage, ESG research, MSCI Hong Kong
- Heike Reichelt, head of investor relations and new products, World Bank
- Jason Tu, CEO, co-founder, MioTech
- Xiaoshu Wang, ESG research China team lead, vice-president, MSCI
- Charles Yonts, head of power and ESG research, CLSA Capital Markets Hong Kong

Executive summary

Environmental, social and governance (ESG) investing has evolved from the rather straightforward approach of stock exclusion to more sophisticated and data-heavy frameworks. How investment firms are tackling this ESG data load is a key question. This research analyses the degree to which artificial intelligence (AI) is being deployed, how it is being used and what more it might do in the future for ESG investment decisions. Integral to that question is an investigation into the state, availability and integrity of ESG data in Asia. Big data has offered insight in many other business sectors and industries, but is Asia's ESG data big enough yet to be meaningful?

The Economist Intelligence Unit surveyed decision-makers at a spectrum of large asset owners and institutional investors about their observations related to "impact" versus "income" goals and about sentiment on data quality. We also spoke to a range of experts on the same topics to study how AI technology may be changing the investment world, specifically with regard to improving ESG returns or impact.

Key findings

1. **The rise of ESG in Asia:** some 95% of respondents believe that ESG investing is important to their firm, with the overwhelming majority saying it will be more so in three years. More than 80% believe ESG has a positive impact on returns.

2. **ESG factor weighting:** almost half of respondents said they weighted environmental, social and governance factors equally. For the remainder that didn't, the individual most important factor was environmental, with mainland China's increasing focus on such issues a major driver. About 90% of respondents feel that environmental and social issues will gain the same importance as governance within a decade.

3. **Investors' AI uptake:** pension funds have the highest uptake of AI for ESG screening. There is, however, broad usage across all investor types and regions. A rapidly expanding range of AI techniques, drawing information from diverse sources, is being used to fill gaps in standard corporate disclosures.

4. **Data quality and suitability:** while there is broad satisfaction with available data, this is combined with recognition that gaps exist. Most investors are responding to such limitations by conducting their own research on the information available.

5. **Looking forward:** much ESG-related data are backwards-facing and cannot, therefore, identify ongoing change in corporate behaviour. The promise of adding AI to the equation is to get a more forward view. Analytics companies are developing models to flag behavioural shifts and experts stress that focusing on data only misses the importance of how it is framed—something that remains a very human decision.

The rise of ESG in Asia

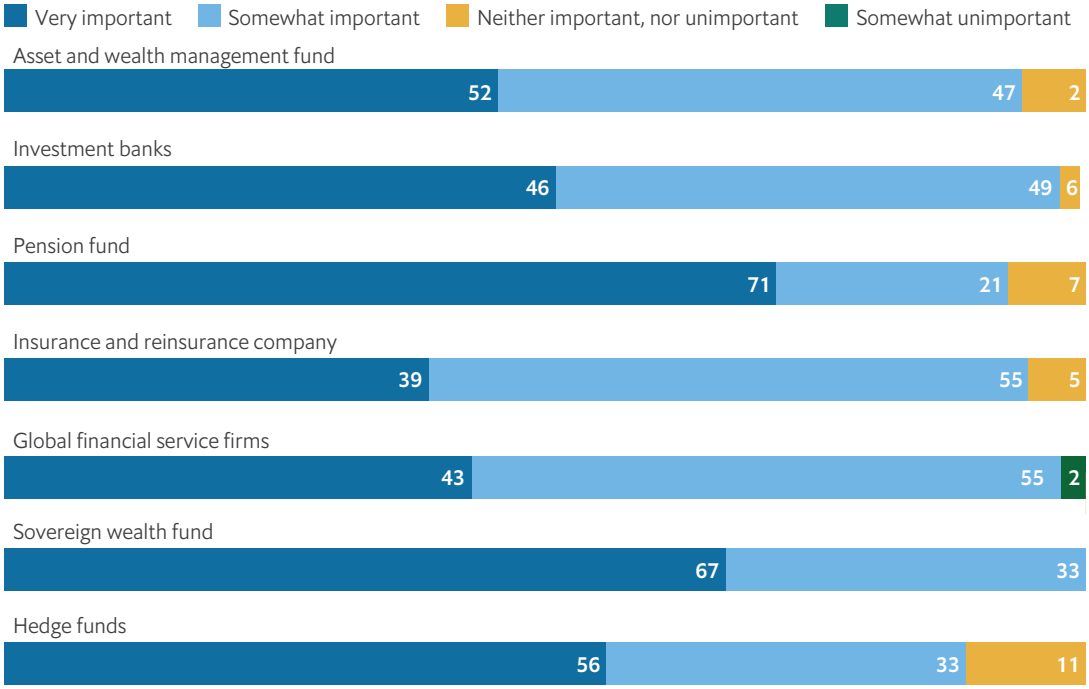
Some 95% of respondents believe that ESG investing is important to their firm, and the overwhelming majority expect that to increase over the next three years. More than 80% believe ESG has a positive financial impact. Those who saw it as having a negative effect were regionally concentrated in Hong Kong, where there has been resistance to ESG disclosure regulations, and among hedge funds, which tend towards shorter-term investment horizons.

"As we've seen from recent news in Hong Kong,[1] there is still a lot of foot-dragging by companies," says Charles Yonts, Hong Kong-based head of sustainable research at investment firm CLSA. "But there is also a lot of pressure from investors, especially foreign investors, along with regulators and exchanges—as they see it as a way to grow business."

Moreover, 92% of Economist Intelligence Unit survey respondents say that ESG will be more important in three years' time. There has also been a shift in perception over the past few years, with more than 80% agreeing that such an approach affects returns positively (see box: Does ESG outperform?).

A residual 5% still see ESG as having a negative effect. Not so long ago that would have been a

Figure 1: Fundamental across the board
How important is ESG to your firm (% respondents)



Source: The Economist Intelligence Unit.

[1] Financial Times: Companies resist Hong Kong ESG disclosure proposal https://www.ft.com/content/026ee8f2-b2de-11e9-8cb2-799a3a8cf37b

much higher percentage, with the investment approach being regarded as a sacrifice of portfolio value on the altar of ethical values.

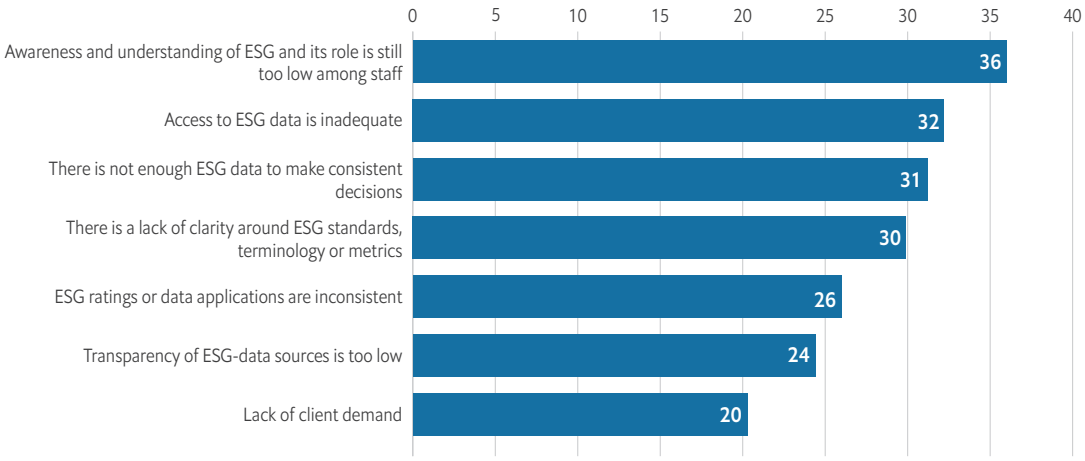
For the overwhelming majority of all classes of investor, ESG has become a relevant factor—something that would not have been the case a decade ago.

Given that the ground has decisively shifted, it is evident that there is an increasing need for reliable data, and data-related technology, for investors to facilitate interpretation of all the metrics that can fall under an ESG heading. That data dynamic is largely the focus of this report.

Barriers to greater uptake

The importance of data gets emphasised in our survey, where respondents rate access to adequate ESG information as the second most prevalent reason for not integrating ESG more prominently into their organisation's investment process. Respondents listed a variety of obstacles to further integration: from lack of staff awareness to inconsistency and opacity of data sources. Aside from the main issue of awareness, almost all ESG obstacles are data related in one way or another. The question of progressing ESG investment in Asia is inextricably linked to the data.

Figure 2: Data drives the challenge
Conditions that best describe the main obstacles to further ESG integration (% respondents)

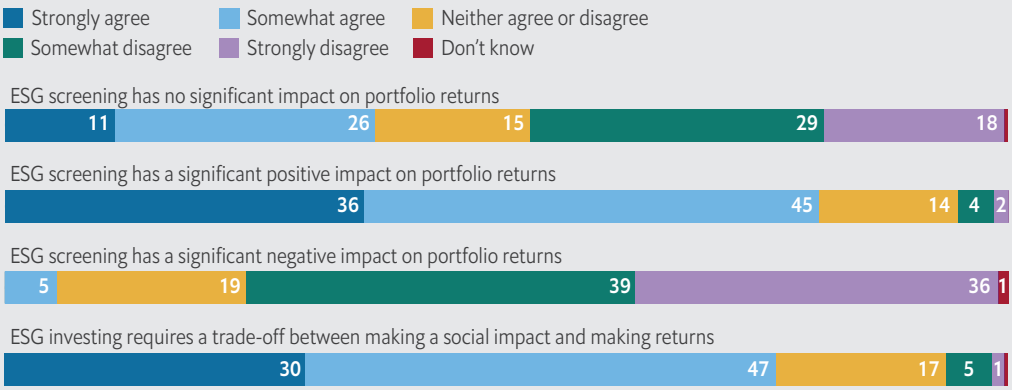


Source: The Economist Intelligence Unit.

Does ESG outperform?

Some 81% of respondents either strongly or somewhat agreed that ESG screening had a positive return impact. Only 5% saw it as having a negative impact. Regionally, those seeing a negative effect were concentrated in Hong Kong—where there has been a recent kickback against ESG disclosure. This was also seen among hedge funds, where 14% see some negative impact; this is arguably a group that seeks to exploit short-term inefficiencies rather than invest with a long-term horizon.

Table 1: ESG impact
Extent of agreement (% respondents)



Source: The Economist Intelligence Unit.

Historically, different reports have reached different conclusions. One research overview found "there is no firm evidence to support or reject" the impact of ESG,[2] while another found "mixed evidence".[3] On the other hand, a Harvard Business School report found that 90 "high-sustainability" companies significantly outperform low-sustainability ones over an 18-year period,[4] and one meta-study of about 2,200 papers reported, "the business case for ESG investing is empirically very well-founded."[5] Another report from the independent non-profit Asian Corporate Governance Association, in conjunction with the investment group CLSA, found that companies with the highest ESG scores, as compared with those with the lowest under study, outperformed on a measure of returns by over 7% a year over a five-year period.[6]

[2] Is it Worth Being Good?—The Efficiency and Risk of Socially Responsible Investing in Light of Various Empirical Studies, Tomasz Jedynak, 2017, http://e-finanse.com/archives/?page=wpabstracts&tab=attachments&task=download&type=attachment&id=941
[3] ESG and financial performance: aggregated evidence from more than 2000 empirical studies, Gunnar Friede, Timo Busch &Alexander Bassen, Journal of Sustainable Finance & Investment , 2015: https://www.tandfonline.com/doi/full/10.1080/20430795.2015.1118917
[4] Eccles R, Ioannou I, & Serafeim G: The Impact of Corporate Sustainability on Organizational Process and Performance, Working Paper Harvard Business School, 2011.
[5] ESG and financial performance: aggregated evidence from more than 2000 empirical studies, Friede et al, Journal of Sustainable Finance & Investment , 2015: https://www.tandfonline.com/doi/full/10.1080/20430795.2015.1118917
[6] CG Watch 2108, December 2018

Why has it been so difficult to draw a firm conclusion? Another recent MSCI study "found that high-ESG-rated companies were more profitable, paid higher dividends and showed slightly higher valuation levels," concluding that "companies with higher ESG ratings, on average, had lower frequency of stock-specific risks, avoiding large drawdowns, and thus representing a 'risk-mitigation premium'." The study explained the lack of consensus on the financial impacts of ESG as owing to the fact that "many of the ESG investing methodologies used in studies were designed to meet social or ethical values and not financial objectives"—that is, the metrics of many studies were entirely inappropriate to draw meaningful conclusions.[7] Analysis published in the *Journal of Environmental Investing* further reinforces this, asserting that "many of the existing studies have not been carefully framed. Some are unclear on theory and fail to specify which elements of sustainability are hypothesized to correlate with marketplace success—and why."[8]

All this comes back to what data are selected and why, which is a recurring theme in this report.

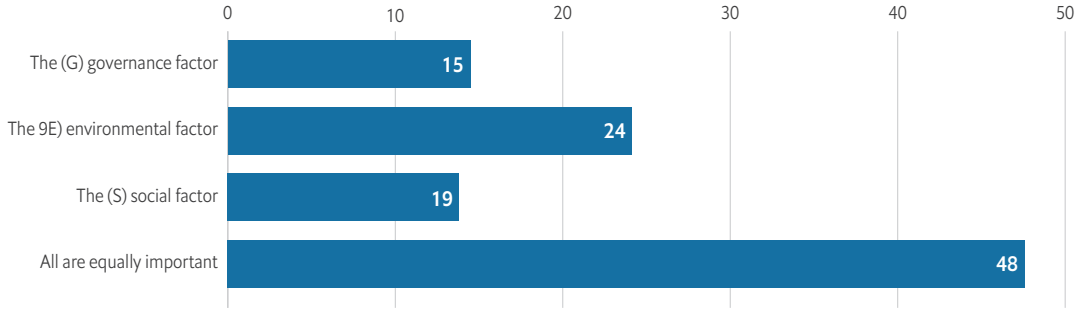
[7] Weighing The Evidence: ESG And Equity Returns, Guido Giese and Linda-Eling Lee, MSCI, April 2019
[8] Corporate Sustainability Metrics: What Investors Need and Don't Get, in Journal of Environmental Investing. State of ESG Data and Metrics Volume 8, No. 1 (2017)

ESG factor weighting

When asked which of the ESG factors were most important, almost half of our respondents said they weighted them equally, and where weightings lean to one in particular, the single most important factor was environmental. Mainland China's increasing focus on environmental issues is a major driver. Reflecting this, mainland firms say information disclosure is the top environmental concern at a far higher rate than any other region in the study. More than half of our respondents saw efficiency of capital as being the most important governance factor. Social is thought to be both the hardest factor to quantify, and the one with the greatest capacity to have a negative return effect. Despite these disparate motivations and effects, about 90% of respondents feel that environmental and social issues will gain the same importance as governance factors within a decade.

Figure 3: Best with balance

Which of the following aspects included in ESG—the environmental, the social or the governance—plays the most important role in the investment decision-making process at your firm? (% respondents)



Source: The Economist Intelligence Unit.

Do investors feel the same about E and S as they do about G?

ESG investing is, of course, not one undifferentiated category. Different investors target a diversity of ends with their strategies. While almost half of respondents say they weight each of the ESG components equally, nearly a quarter put environmental factors as paramount. This reflects the new-sourced reality that E is being given greater prominence in Asia, not least by mainland China's increasing focus on it; environmental reporting becomes mandatory there in 2020.

Emphasis on governance and social aspects tie at about 10 percentage points behind environmental in Asia overall. Yet there appears to be a mismatch between this ranking and the degree of available data, as Xiaoshu Wang, MSCI's ESG research China team lead, explains. "There is a greater degree of mandatory disclosure with governance factors than social or environmental. Environmental factors follow, with social being slower [to catch up]."

"How one weights different ESG factors comes up all the time," says Mr Yonts. "There are a huge number of studies, and you can find any number

Our own studies have found that E, S and G combined were the best predictors of share price movements.

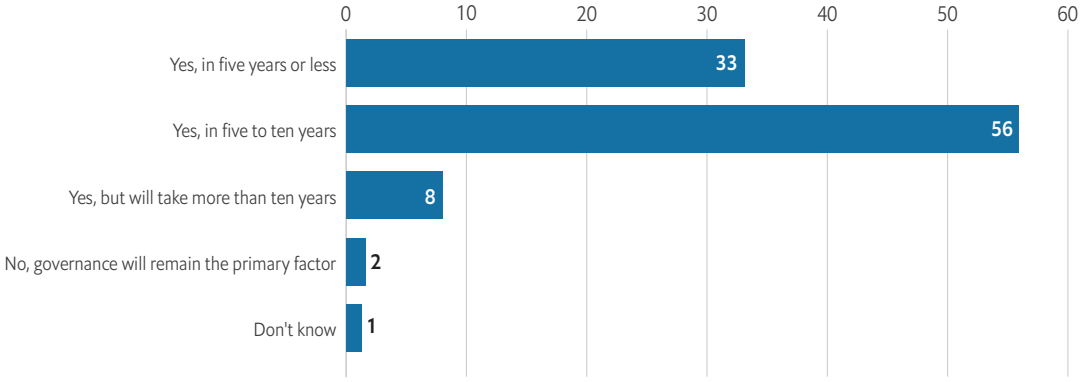
Charles Yonts, CLSA Capital Markets

supporting each of the factors. Our own studies have found that E, S and G combined were the best predictors of share price movements , followed by E. Which factor predominates is also very dependent on the particular market."

"We emphasise G, but that's simply because that's where the best data is," he adds. "G is valuable as a way of avoiding the bombs [investment losses] rather than adding value."

Social, as many commentators stress, can be the hardest to back with data, and most difficult to get companies to adhere to. And, while more than three-quarters of our survey respondents still expressed belief that there is a trade-off "between making a social impact and making returns", the sentiment was least prevalent in Japan, where just over 50% of respondents somewhat or strongly agreed with the statement; whereas in all other surveyed regions, agreement reached 70% or more, hitting a high of 97% in mainland China.

Figure 4: Approaching parity
Do you believe the environmental factor or social components are gaining in importance in the finance industry such that will gain parity with governance in the near future? (% respondents)



Source: The Economist Intelligence Unit.

Some 56% of respondents believe it will take five to ten years for social and environmental factors to gain parity with governance, while a third think it will take less. Survey takers in ASEAN (ex-Singapore) were most optimistic that social and environmental factors can catch up faster, with 50% in the region saying it could happen in five years or less, as compared with neighbouring Singapore, which had results in line with the overall 33% survey average; true to a moderating reputation, the market rarely deviated from the study's mean. Those in Japan, however, were most pessimistic on the question, with only 12% believing parity could take under five years.

Putting flesh on SDGs

The advent of the Sustainable Development Goals (SDGs) has undoubtedly helped frame ESG goals. The UN General Assembly set the 17 SDGs in 2015, covering a wide range of environmental and social targets. And a variety of organisations are developing metrics to track them at the corporate scale.[9]

[9] *The Journal of Environmental Investing*. State of ESG Data and Metrics Volume 8, No. 1, (2017)

Heike Reichelt, head of investor relations and new products at the World Bank, explains how the international financial institution works to concretise the SDGs into its own bond issuance. "Many [countries] have set their Paris Agreement targets and are very focused on achieving the SDGs. We will work with many of them on these. Our issuance volumes are based on project disbursement and liquidity needs. We also focus on particular themes in our engagement with investors. We recently launched a theme to focus on the importance of water and oceans, framed around SDG 14 (life below water—including reducing plastics in oceans) and 6 (clean water and sanitation), which is a huge issue for cities, as we are seeing in many countries—also in Asia."

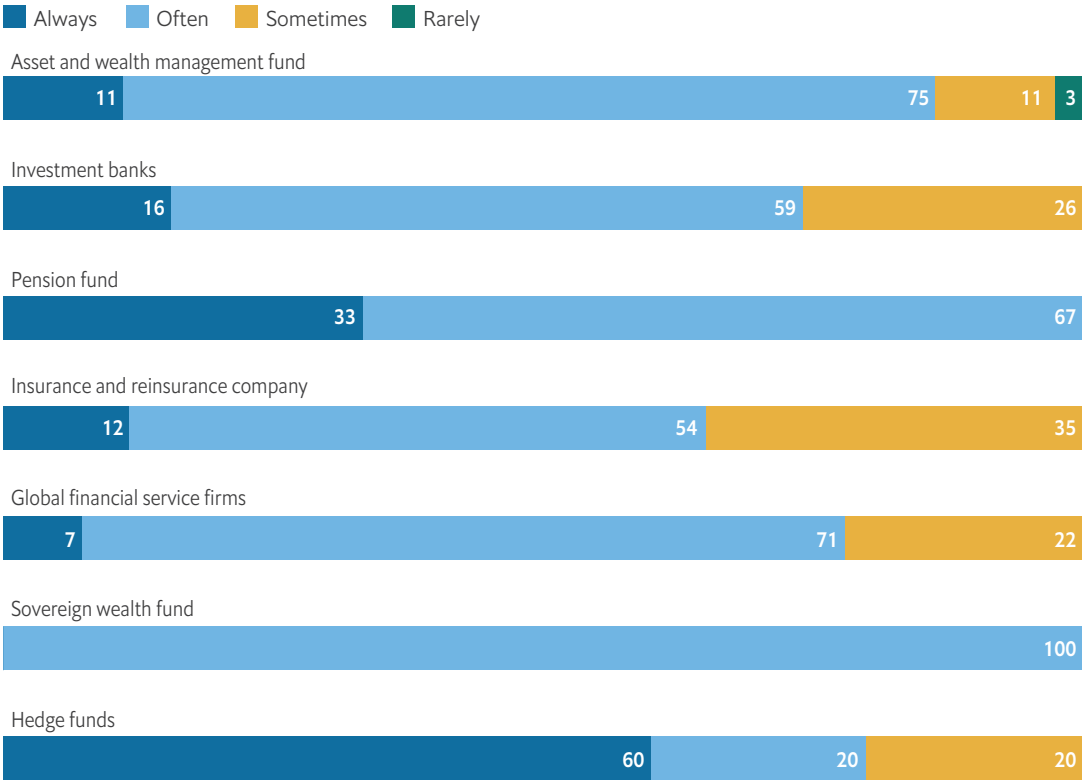
"You can put the SDGs into three categories," says Cary Krosinsky, a sustainable-finance author and adviser. "There are the ones that are directly investible; ones that are indirectly investible, where you can invest as part of systemic solutions; and ones that are not investible, such as war and peace." He adds that it is "at a system or country level", rather than a company level, where quantitative data are most helpful.

Investor AI uptake in ESG

Given the wealth and complexity of ESG data, it's no surprise that investors increasingly reach for an advantage in interpreting it—not least with AI.

In our survey, pension funds claim the highest uptake of AI for ESG screening, with all respondents in the category doing this either always or often. Asset and wealth management funds do the same more than 85% of the time, while investment banks, (re)insurance companies and global financial services firms make use of this at least 65% of the time. Sovereign wealth funds and hedge funds registered high use levels, but with smaller sample sizes. As with ESG uptake in general, the indication is a market-wide trend rather than one particular group taking the lead.

Figure 5: A pension for AI
How often is AI being used specificatly for ESG investing? (% respondents)



Source: The Economist Intelligence Unit.

To accommodate demand, a burgeoning number of analytics firms, many of which originate in Asia, are now offering an increasing range of AI tools and techniques to help investors.

Common metrics

ESG is an area where one size does not fit all. "ESG strategies are as diverse as investment strategies more generally," says Ms Reichelt. "It is unrealistic to suggest that a single set of metrics and one methodology will meet the needs of the investor universe."

ESG strategies are as diverse as investment strategies.

Heike Reichelt, World Bank

That said, mechanisms are emerging to assess which metrics are more meaningful. For example, the Global Reporting Initiative, one of the most widely recognised reporting structures, has expanded its reporting frameworks over the past two decades, with companies asked to assess up to 58 General Standard Disclosures and 82 Specific Standard Disclosures.[10]

The market is also birthing a plethora of different providers and methodologies. Alongside historical disclosures, companies such as Ethos, Inrate, MSCI, Oekom research, Sustainalytics and VigeoEIRIS draw on company policies and management processes. CDP (formerly the Carbon Disclosure Project) runs the global disclosure system that helps measure firms' influence on managing climate change risks and opportunities, while Trucost, part of S&P, gathers data across corporate operations, product life cycles and supply chains to evaluate environmental costs. This contrasts with Thomson Reuters, which uses only publicly available information, which the firm reckons improves reliability.[11]

Data provider MSCI looks at the use of ESG data in two ways, says Elaine Ng, executive director, client coverage, in ESG research, MSCI Hong Kong: "as an integrated part of the investment management process, and as a way of analysing companies on ethical terms, dependent on the preference of investors. There are also different ways of using the data: portfolio construction and engagement."

While use of data differ, so does how they are gathered: either through company disclosures or by building sets from third-party sources—such as competitors, NGO reports and even employees' social media accounts. This approach, known as scraping, where AI and machine learning (ML) glean information by identifying keywords and concepts, is becoming a prevalent form of data provisioning, filling gaps in standardised corporate reporting data. "New AI and ML outfits seem to pop up every day," says Mr Yonts. "It's still nascent, but as a lot of important data is buried in reports in a way that would otherwise be inaccessible, this is helpful in collecting and standardising information."

Jason Tu, co-founder and CEO of financial AI platform, MioTech, explains how challenging

[10] Journal of Environmental Investing Volume 8, No. 1, (2017)
[11] Summarised from 'Responsible Investing: Guide to ESG Data Providers and Relevant Trends' in ibid

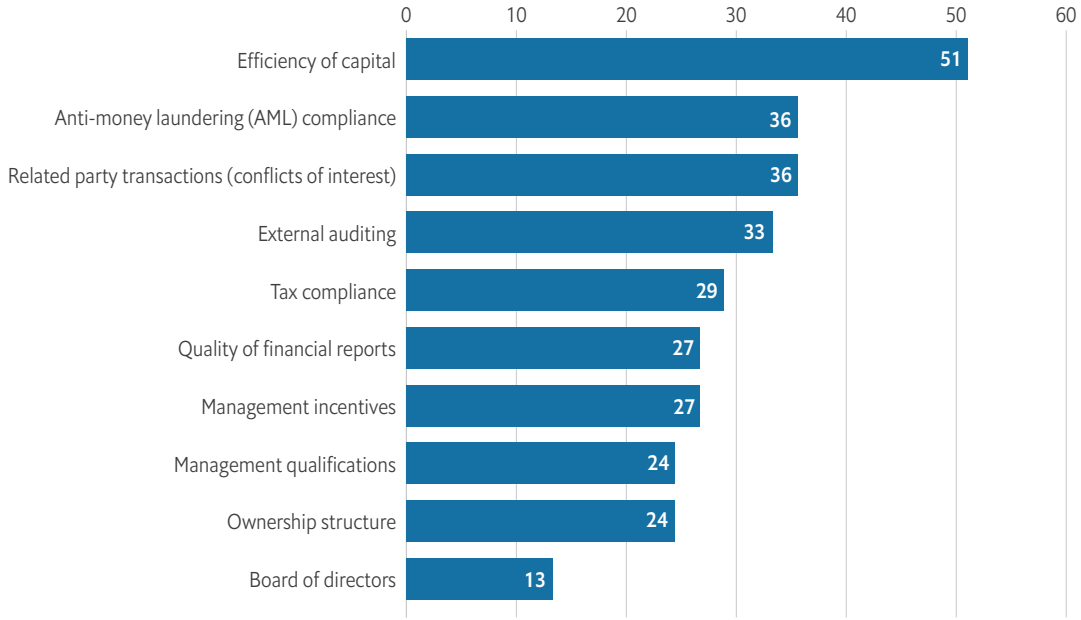
this can be, even with mandatory disclosures. "The data is quite scattered; there are 34 provinces [provincial-level administrative units] in mainland China, and they report in different ways . Some will publish the data in a PDF, some in Word; some even do it as a JPG. So you need sophisticated technology in order to gather and integrate this data, such as image recognition." He says MioTech deals with this by having 12,000 "pipes" going into different data sources, just to extract the relevant information: "that's before you get to the taxonomy." However, this is becoming the mainstay of data provisions. Mr Tu believes that his firm gets just 10% of its data from companies' own disclosures. "And we certainly don't expect Asian governments to structure data for us," so AI will increasingly rely on an ability to gather and sort information from the public domain—in whatever format available.

> **The data is quite scattered; there are 34 provinces [provincial-level administrative units] in mainland China, and they report in different ways.**
>
> *Jason Tu, MioTech*

Specifics of E, S and G

The question then becomes: how does AI feed through to the analysis of the three ESG factors? For our survey respondents, they expressed specific preferences as to what they were measuring and targeting within each.

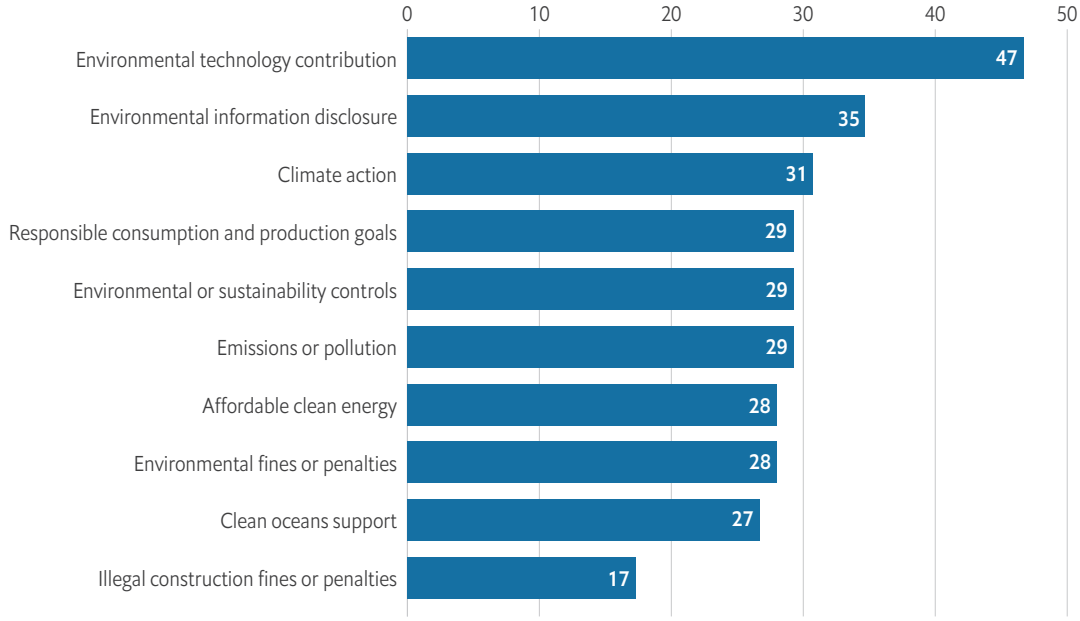
Figure 6: Capital efficiency
Which metrics in the governance factor are most important at your firm? (% respondents)



Source: The Economist Intelligence Unit.

For governance, more than half of survey respondents saw efficiency of capital as being the most important. This was followed by anti-money laundering, conflicts of interest and external auditing as priorities. In a rare break from consensus, Singapore put particular focus on tax compliance, at 73%, rather than the average of 29%. This may reflect aspects of the country's regulatory regime.

Figure 7: Broad appeal
Which metrics in the environmental factor are most important at your firm? (% respondents)

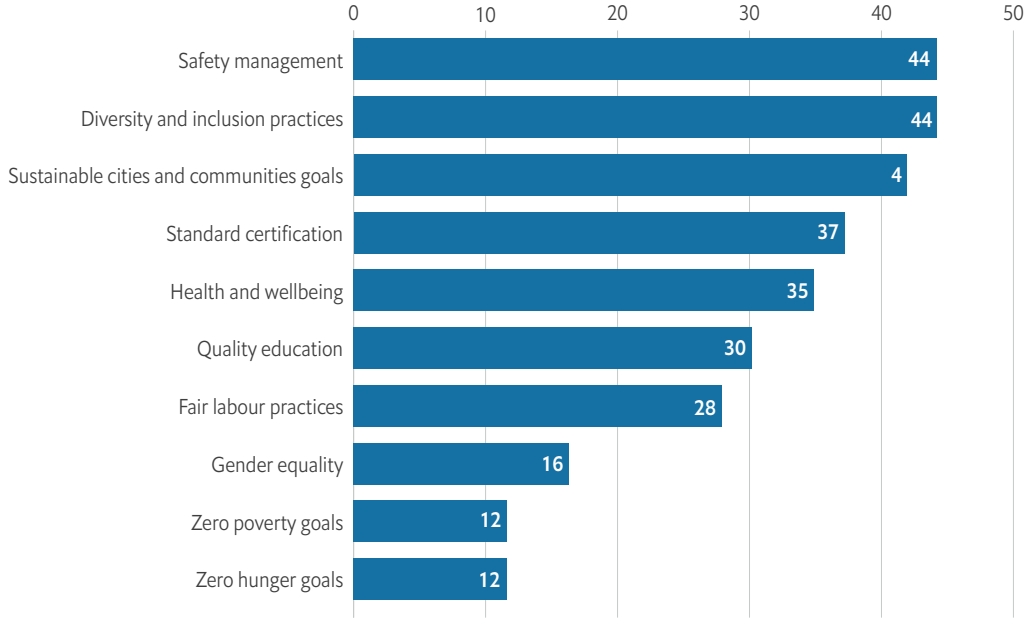


Source: The Economist Intelligence Unit.

And in environmental metrics, technology contribution scores the top spot, followed by disclosure concerns; mainland China's drive for mandatory disclosures is likely to push this up the priority list. And firms in mainland China do select environmental information disclosure as the number one concern at a far higher rate. Demonstrating the diversity of objectives in the area, most other issues—from climate action (SDG 13) to affordable clean energy (SDG 7), which are closely interrelated—settled at about 30% of respondent priorities. Singapore stands out from the crowd, prioritising clean oceans support (55% versus 27% on average), which probably reflects its position as a maritime centre.[12]

[12] https://www.hellenicshippingnews.com/singapore-retains-top-spot-as-international-shipping-centre/

Figure 8: Safety and diversity reign
Which metrics in the social factor are most important at your firm? (% respondents)



Source: The Economist Intelligence Unit.

Respondents target a fair spread in social factors. Safety management, and diversity and inclusion (aligning closely with SDGs numbers 5 and 10) lead, both at 44%. Social impact presents a challenge, concedes Mr Tu, where important information "can come from something as obscure as a random employee complaining about the practices of their company on social media." "Social is the clear laggard," agrees Mr Yonts, "and it's a struggle to get companies to appreciate the importance of this. There is a definite role for [data] scraping here, because much of the information investors need is not mandatory, and AI can help gather and structure this."

However, while research establishes the strongest link between governance and performance, there is a growing realisation in the industry of how all three factors are interrelated: a mining company that has poor disclosure can produce damaging environmental effects that lead to regulatory action against it, which translates into risk and losses for investors.

> **Climate change is as social as it is environmental. A lot of people are resisting the separate 'bucketing' of E, S and G.**
>
> *Heike Reichelt, World Bank*

"Environmental and social impacts are not distinct. The environment has social effects, such as the impact on population movement," says Ms Reichelt. "Climate change is as social as it is environmental. A lot of people are resisting the separate 'bucketing' of E, S and G ."

Data quality and suitability

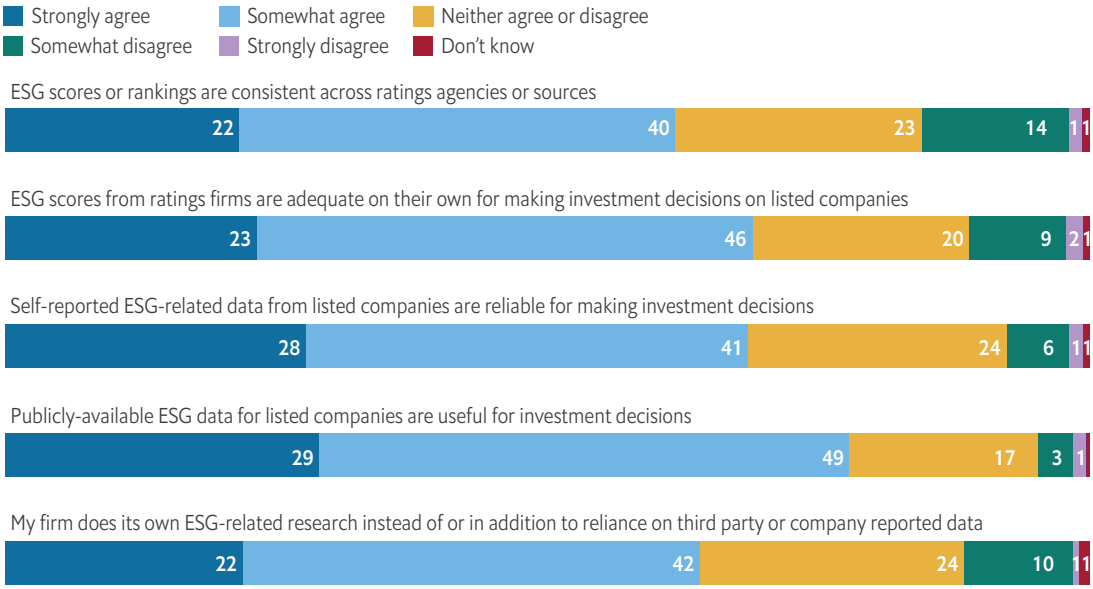
While respondents expressed broad satisfaction with available ESG data, this combines with recognition that gaps exist. About 90% of respondents expect the volume of ESG-related data to increase over the next three years, and most investors report conducting their own research to respond to data limitations. Data experts, who acknowledge the diverse and often uncorrelated character of what is available, also stress the need to test suitability within portfolios rather than expecting data sets to offer ready-made solutions.

The growth of ESG data

The general expectation that the amount of available data will increase across the region is supported by investors' need to understand more areas of ESG reporting in order to make decisions (34% of respondents). This indicates that, while people are satisfied with availability, they could certainly be more satisfied (see chart).

Respondents seem more positive than experts on the quality and usability of ESG data in Asia.

Figure 9: Asia confident in the data
Extent of agreement (% respondents)



Source: The Economist Intelligence Unit.

Some 62% of survey takers believe that scores and rankings were consistent across ratings agencies and sources, with 69% believing these data are an adequate basis for making investment decisions. ASEAN countries (ex-Singapore) were most likely to agree with the latter view (88%),[13] while Singapore was much less likely (52%)—only South Korea was slightly more sceptical (50%). The survey result is reflective of a common divide between Singapore and its ASEAN neighbours, particularly in terms of financial services. Singapore has the highest per-head GDP in ASEAN and claims the highest financial services

[13] Level with mainland China, but with a higher proportion of strongly agreeing respondents

penetration.[14] It's possible the nation's deeper experience is the source of a more multi-faceted approach to ESG data usage, requiring a greater degree of interrogation.

Mr Tu believes that large funds are driving the market. "Some of our biggest clients tell us they don't trust data from China—that is, companies' own reporting—and want the data from public sources that we are able to crawl. Now we're seeing the second tier follow. Governments and regulators also play a part, but this is smaller." He emphasises, though, that "the data-trust issue is not unique to China," and that MioTech also receives similar feedback on South-east Asia in terms of transparency and data integrity. "Globally speaking, I believe there's a larger tendency to focus on the positive and mitigate the negative."

Mr Yonts agrees "Asian ESG data isn't very reliable, and there are gaps damned-near everywhere. Quality is still relatively poor, as it's not consistent across markets. On the other hand, it has improved rapidly over the past five years, and particularly over the past two." He also says that "the data sets are nowhere near the level that would be useable by a quant [quantitative analyst], though it will get there."

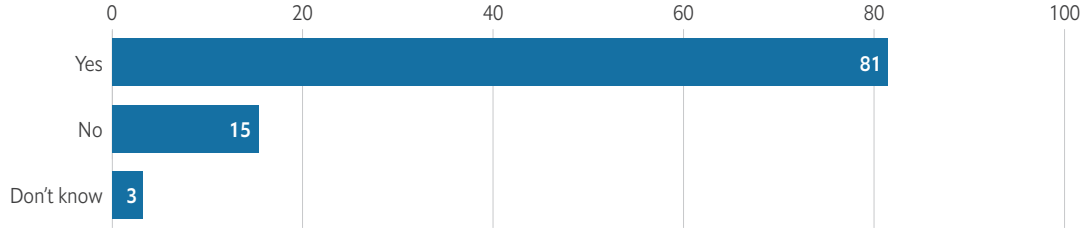
> **There are gaps damned-near everywhere.**
>
> *Charles Yonts, CLSA Capital Markets*

While Ms Reichelt concurs that there are many providers of ESG scores, and "results often seem to be uncorrelated", she believes this is to be expected. "ESG is a grey area. There is most agreement around the type of data that should be assessed for climate risk, but even here models differ."

This is reflected in our respondents' practice. More than 80% say they use AI to analyse ESG data. But as Ms Reichelt cautions, "investors need to compare outcomes and decide how they use data. The data is the starting point, not the result."

Ms Ng reinforces this point: "Data by itself doesn't provide a ready-made solution. If

Figure 10: Few in the 'no'
Is your firm using machine learning or other types of AI for insights or data screening to assist with or accelerate investment decision? (% respondents)



Source: The Economist Intelligence Unit.

[14] *The Future of ASEAN—Time to Act*, PwC, May 2018 https://www.pwc.com/gx/en/growth-markets-centre/publications/assets/future-of-asean-chapter-3.pdf.

The data is the starting point, not the result.

Heike Reichelt, World Bank

you are trying to build a resilient portfolio, you should be testing the data you receive from providers to ensure that it gives you the results you require, to see whether or not it suits your investment style." She adds that "just to say 'different providers supply different data' is a very superficial way of looking at it. ESG research reveals the specific risks of investments. But it needs emphasising that investors need to test this in order for it to be more than a box-ticking exercise."

"Many investors," says Ms Reichelt, "use raw data and conduct their own analysis on this using proprietary methodologies, rather than relying exclusively on scores from providers." And true to their nature as risk avoiders, insurance and reinsurance organisations in our survey showed the least propensity to say ESG scores from ratings firms are adequate on their own.

What AI can and can't do

On a minimal level, AI can cut out a lot of tedious manual work. For example, the World Bank Treasury is looking at how to use AI for transparency, and to automate impact and project-result reports for investors. "Many of these processes are still very manual and time consuming to set up, and we're looking at how natural language processing and ML can automate this," says Ms Reichelt. At its simplest then, AI can just be a way of improving ESG analysis without increasing costs.

But, of course, it's more than that. The World Bank looks at technologies such as blockchain, for such applications as land titles, healthcare data and financial inclusion. "In treasury we're using AI to facilitate transparency and increase efficiencies; in operations to work with countries to get a clearer understanding of risk and opportunities to address development challenges," explains Ms Reichelt.

The really interesting thing about AI, she says, is how it can connect the dots in ways people can't, citing an example of ocean pollution. Levels in one country may spike after the relaxing of environmental policies in another, for example by allowing over-fertilisation that leads to chemical runoff into the sea. "While the link may not be apparent to humans, machines can identify this by processing a lot of data, and display the connections in an intelligent way," she says.

Ms Wang says AI can be used to mine big data in a variety of ways. "For example, we can use external data to check which regions are more prone to hurricanes and incorporate this into the ratings model, and to, therefore, determine which companies are more vulnerable to such risks, by region and sector."

What constitutes the right sort of information is ultimately a human decision .

Elaine Ng, MSCI Hong Kong

But AI is always limited by who frames it. "AI is driven by human analysis—AI just consolidates it," says MSCI's Ms Ng. "What constitutes the right sort of information is ultimately a human decision ."

Backwards and forwards

Raw data limitations are most apparent when it comes to using historical information to determine future behaviour. In this way, ESG data are also backwards-facing, and therefore cannot identify forward changes in corporate behaviour, which may yield positive (or negative) sustainability impacts. As all those disclaimers keep telling us, past performance is no guide to the future.

Such metrics track reputational issues, not operational factors. This misses the opportunity to "deliver lower costs, reduced risks, faster growth, improved productivity, or enhanced innovation capacity," according to the *Journal of Environmental Investing*. Historical data focus on risk rather than the potential sustainable growth.[15]

"Ultimately, quantitative data, unless it's actionable—such as carbon emissions—is not all that useful to an investor," says Mr Krosinsky. "It's more useful for companies to figure out their own priorities and strategies. But if you're an investor you want to know who's doing the best job of transforming , and the data won't necessarily tell you who is most successful at transforming their business."

It's more useful for companies to figure out their own priorities and strategies. But if you're an investor you want to know who's doing the best job of transforming.

Cary Krosinsky, Yale School of Management

Analytics companies are increasingly addressing this and developing models that scour a wide variety of sources for keywords and phrases that may have the potential to flag behavioural shifts early to investors. Again, experts stress that focusing on just the data misses the importance of how it's framed.

However, AI can help provide early warnings. "While data is backward-looking, AI can put it into a context that is forward-looking, enabling investors to see what may be brewing," says Ms Reichelt. "In this context, businesses are looking at the potential effects of different climate change scenarios to see how they can respond."

Past the (ex) post

AI's promise in the finance industry, for ESG in particular, is in turning data around to make it a windshield rather than a rear-view mirror. As Mr Tu explains, "ESG data has had an ex-post focus [backwards looking], such as incorporating companies' existing environmental impacts." However, he says, "there is more ex-ante [forward-looking or predictive] data coming through: measuring supply-chain impacts, looking at shareholder relationships and management profiles in order to flag up issues early on."

This entails going beyond the mandatory disclosed data to a vastly greater range—through scraping and other approaches. Mr Tu cites the example of a banking client; MioTech helped monitor one of its corporate borrowers, which had drawn a large loan. Their technology was able to link this company to a major outbreak of food poisoning at a ski resort in north-eastern China in early 2019. Through analysis of corporate ownership layers, the

[15] 'Corporate Sustainability Metrics: What Investors Need and Don't Get,' JEI, ibid

company with the Rmb600m debt on the bank's books ultimately was shown to be the resort's owner. "We were able to identify this link two weeks before it became public knowledge," says Mr Tu. "You need a very powerful knowledge graph in order to be able to link all the diffuse data from many different sources and correctly identify such a problem." He adds that the firm is also looking at new sources of data, such as satellite images illustrating environmental impact, to keep investors on a front foot.

> **You need a very powerful knowledge graph in order to be able to link all the diffuse data.**
>
> *Jason Tu, MioTech*

AI is increasingly deployed to find ESG signals in social-media noise. "AI can be used to pick out sentences and words from company materials that give an overview into their culture," comments Mr Yonts. "It's possible to say that a company would be a better steward of capital if they use certain sentences and concepts. That could be gamed, but we're a long way from that yet." Almost all our Asia-based survey respondents, 81%, claim they are using AI to generate these types of insights or data screening to assist with or accelerate investment decisions.

A further issue with the use of ESG data is end-users' need for simplicity—particularly a *binary* simplicity. "Although such an approach serves investment managers well by presenting an overall, easy-to-use rating, it may sometimes gloss over important nuance," reports one study.[16] Mr Tu agrees, saying that "given the non-standard nature of ESG data, you need to ensure that proxy variables are very reliable. Clients often want us to provide a simple score—say, 0 to 100 on environmental impact. While it's possible to provide this, it doesn't quite solve the problem. You need more topic data to form an accurate view: how long has data been in the public domain, reposts on social media, the fade rate of specific information, for example."

The binary problem is not new: people have always reached for simple solutions to complex problems, and doubtlessly always will.

[16] 'ESG Indices and Corporate Sustainability Research from a Strategic Perspective: A Reflective Appraisal and Suggestions for Improvement' in JEI, ibid

Conclusion

Overall, as our survey and interviews testify, there has been a sea change in investor attitudes to ESG in Asia, with 95% of respondents seeing the approach as important, and a similarly overwhelming proportion using AI to glean insights. The trend is likely reaching a tipping point, in terms of impact. "In five years' time, I don't think we'll be talking about ESG as a distinct entity—it'll be embedded in the investment process," says Ms Ng. Within those five years, "we will be talking more about climate change and AI will be pivotal to creating solutions. Things are moving very quickly, and AI helps formulate strategies to address these evolving risks."

Speed of technological adoption is an area where Asia has excelled this century. "Asia is increasingly looking to adopt approaches to integrate ESG and use AI to do so," says Ms Reichelt. "There is every chance that [Asia] will leapfrog other regions, not least because of the number of technology companies based there, and willingness to explore new ways to conduct ESG analysis."

It is crucial that we recognise how bringing ESG and AI together can unlock potential to transform a naturally backwards-facing resource into a more predictive tool. Possibly the most radical take on this comes from Mr Krosinsky, who believes "the ESG conversation is backwards; the issue is not so much to create a database then figure out what to do with it, but rather work out what strategies are working to resolve the issues thrown up by ESG."

There is a lot of focus on the data," stresses Ms Wang, "but the model behind this is very important .

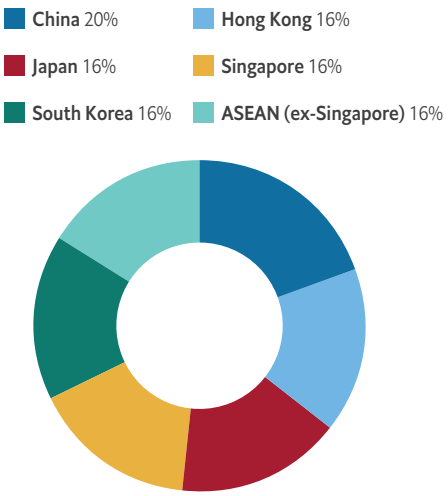
Xiaoshu Wang, MSCI

Our experts advise that success with AI and ESG is more a matter of framing, which is still ultimately a human decision. "There is a lot of focus on the data," stresses Ms Wang, "but the model behind this is very important ."

Appendix: Survey demographics

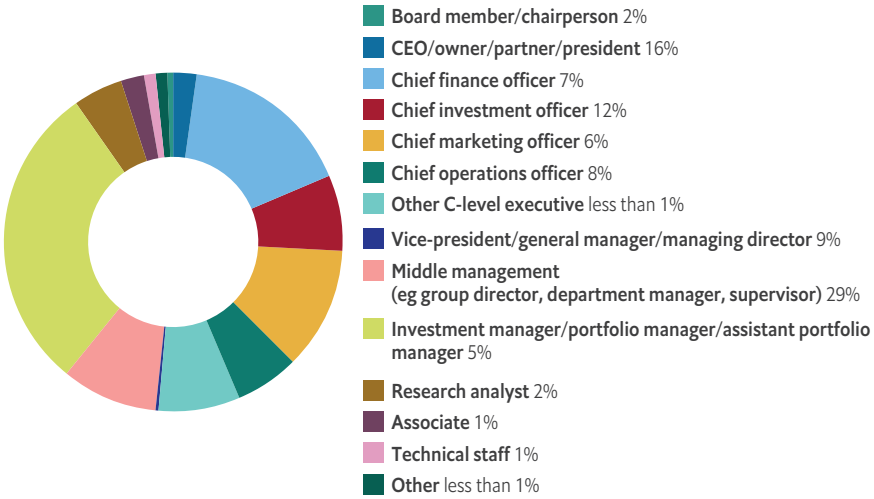
Not all questions may add up to 100% due to rounding. *ASEAN includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, and Vietnam. Singapore was surveyed separately due to depth and breadth of multinational and financial services firms in the country.

In what country are you personally located?
(% respondents)



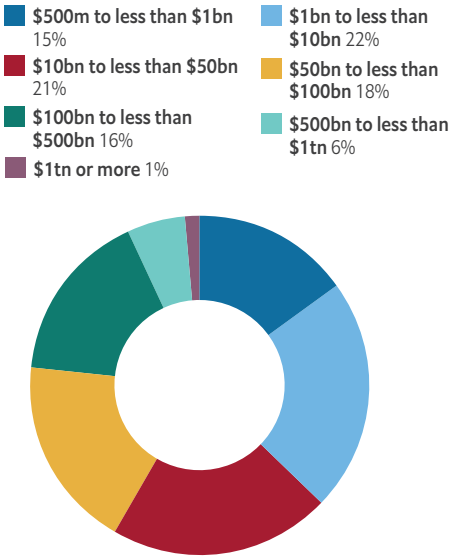
Source: The Economist Intelligence Unit.

Which of the following best describes your job title?
(% respondents)



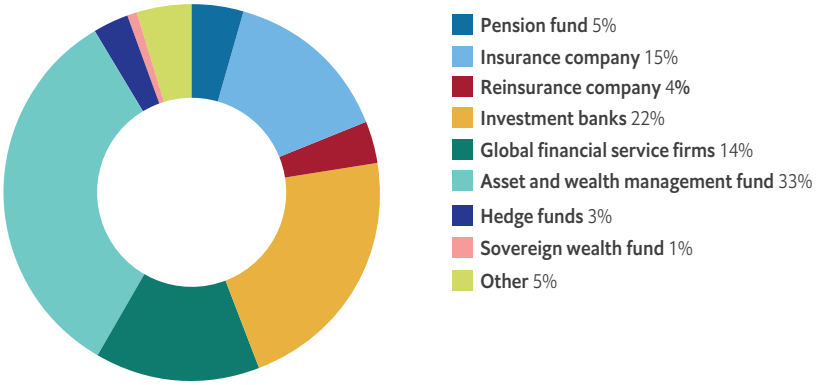
Source: The Economist Intelligence Unit.

Which is closest to your firm's assets under management (AUM) in US$?
(% respondents)



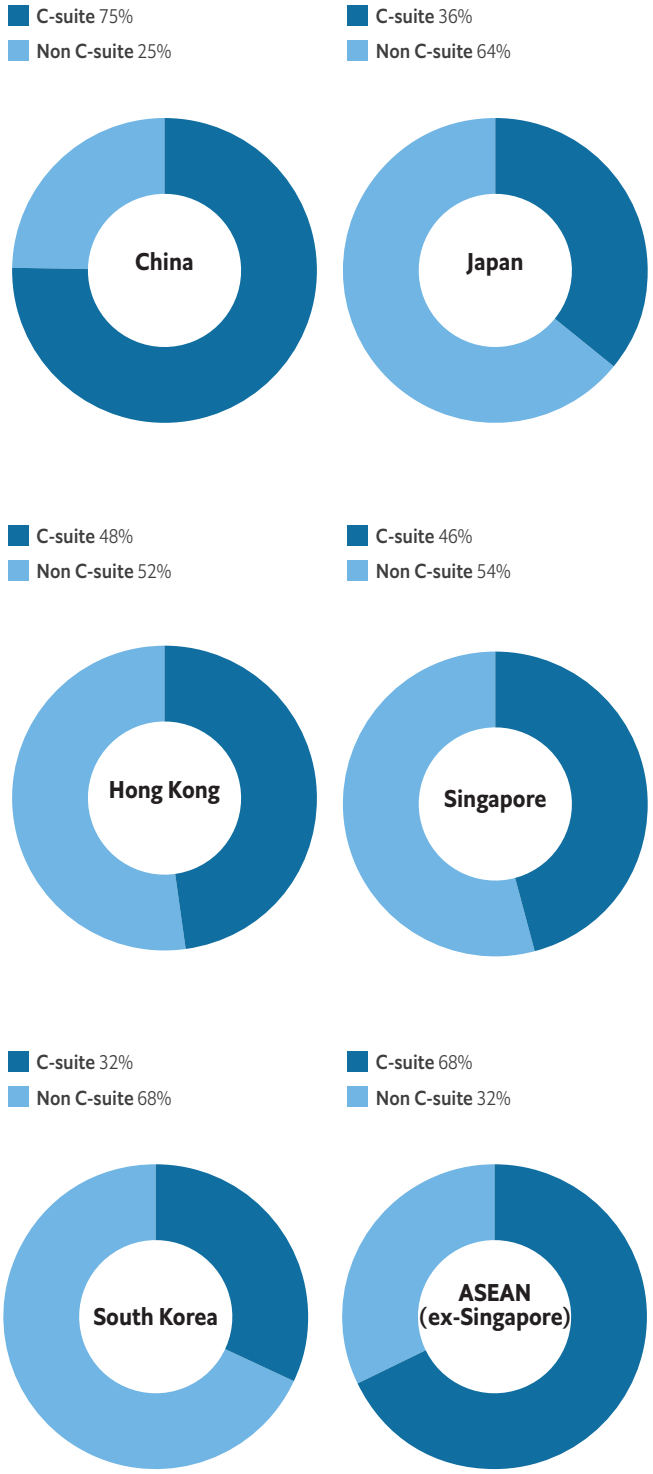
Source: The Economist Intelligence Unit.

Which of the following most closely describes the organisation you currently work for?
(% respondents)



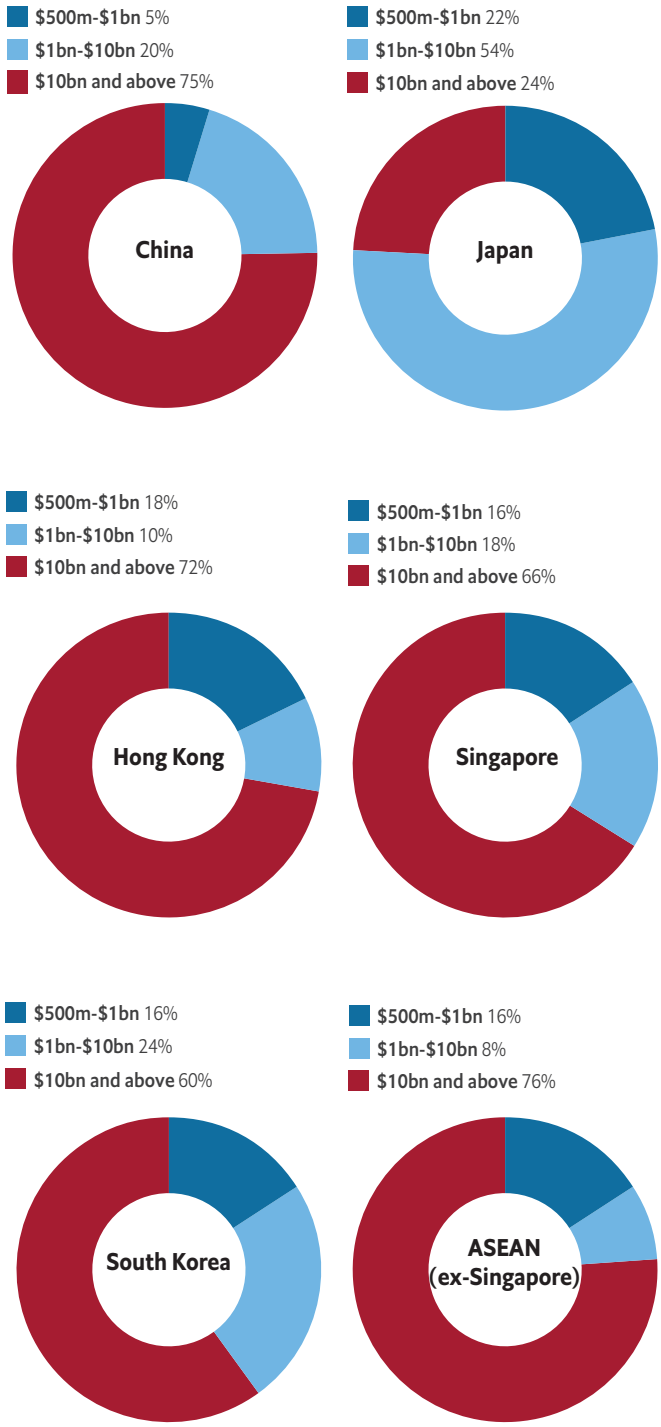
Source: The Economist Intelligence Unit.

Which of the following best describes your job title?
(% respondents)



Source: The Economist Intelligence Unit.

Which is closest to your firm's assets under management (AUM) in US$?
(% respondents)



Source: The Economist Intelligence Unit.

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