The Future of ESG

Supplying the Demand

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June 2022

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Preface

The scope of valuation has always been expanding in finance. In the 19th century, the primary driver for measuring business value was cash dividends. As accounting standards improved in the 20th century, book value became a prominent metric. Financial thinking has progressed beyond book value to focus on cash flow, which today is the dominant metric for business valuation. But cash flows don't explain everything about today's market valuations, and it is clear that the universe of what owners and investors take into account for valuation continues to expand. Among the many factors at play, environmental, social and governance considerations (ESG) encompass an emerging set of valuation metrics with great potential to grow in importance.

In this report, we explore the growth of ESG across the financial system and how it is evolving. We identify long-term drivers of ESG, as well as trends that matter in the short term, and take stock of the solution space for incorporating ESG considerations into financial decision-making. We see ESG as another link in the growing chain of valuation metrics, bringing previously unaccounted value into the familiar world of financial valuation. And that means having the right tools will be more important than ever.

Our research was led by Rick Lacaille, State Street's global head of ESG, and Anna Bernasek, State Street's global head of thought leadership, together with Karen Wong, State Street Global Advisors' (SSGA's) global head of ESG and sustainable investing, and Phil Kim, State Street's global head of ESG product. We are grateful to State Street's Analytics and Research team led by Jai Kapoor and including Pratiksha Goswami, Parav Gupta, Arya Jyothi and Abhishek Sharma for their valuable contributions.

We owe thanks to our external partners, who push our thinking and increase our knowledge of ESG. In particular, the work done by the Cambridge Institute for Sustainability Leadership, the Council for Inclusive Capitalism, CSR Europe, FCLTGlobal, the Institute of International Finance and the Sustainable Markets Initiative has informed this report.

The Future of ESG builds on the work that is being done in ESG across State Street. In particular, we thank Esther Baroudy, Carlo M Funk, Ciara Horigan, Mark Prentice, Ramu Thiagarajan, Nele Van der borght, Lauren Willington, Kelly Young and Adrienne Zak for sharing their insights and feedback on this report.

Additionally, we thank our colleagues for ongoing collaboration in ESG, including Pete Adams, Noble Alden, Melissa Ahern, Michael Andeberhan, Nick Autiello, Natalie Baker, Jennalyn Buxton, Mike Beattie, Sara Castellani, Charlelie Carlier, Jack Carnes, Kenefy Carvajal, Neill Clark, Alexander Cheema-Fox, Ivette Collazo,

Benjamin Colton, Chantala Chanthasiri, Megan Czasonis, Antoine Delporte, Talinn Demirjian, Arianne Dhanraj, Deena Ethridge, Jenny Fan, Holly Fetter, Cristina Ferreira, Roderick Fisher, Richard Fontes, Konstantina Founta, Syeda Hamida, Abigail Hammerl, Justin He, James Hill, Yifan Hong, Jameel Hussein, Hanbin Im, Xinting Jia, Dax Johnson, Devika Kaul, Georgia Karmou, Akshay Kaushik, William B Kinlaw, Melanie Kulick, Jan Kooy, Andrew Koval, Anthony Laquidara, Weiihua Li, Mimi K Li, Miranda Love, Stefano Maffina, Daniel Margolius, Jon McCardle, Kevin Montoto, Duruo Murray, Christian Nadeau, Hamdi Narci, Truman Ng, Allison Norman, Christine Norton, Ryan Nowicki, Gillian Ojeda, Mark Parker, Karl O'Farrel, Katrina Orelup, Brian O'Sullivan, Konstantinos Papalampros, Colleen Pedlow, Thomas Perugini, Yumi Pickard, Ulla Pitha, Aishwarya Roy, Jacob D Rosenfeld, Carol Shan, Imran Shaffi, Kushal Shah, Ben Shim, Ritu Shirgaokar, Jeff Shortis, Suzanne Smetana, Erinn Staley, Jeslyn Tan, Stephanie Teh, Robert Walker, Travis Whitmore, Brie Williams, Michael Younis, Katharine Zajkowski and Jiacheng Zou.

Finally, we thank our colleagues who have encouraged and supported the creation, production and dissemination of this report, including: Iulia Balan, Andrew Conn, Sandra Connolly, Eric Garulay, Hillary Gove, Melissa Heimerle, Joseph Kowan, Jamie Letica, Katherine Lucas, Brenda Lyons, Julia McCarthy, Andy Muncer, Erol Munuz, Fiona O'Sullivan, Rosie Pascuccio, Ed Patterson, Mili Sinha and Wendy Smith.

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JUNE 2022

Contents

Executive Summary

Whatever else ESG may be, all would agree that it is a complex subject. This report is an effort to cut through the complexity and look at what matters. We examine the ESG universe now and provide a framework for thinking about what comes next. Our intent is that this report clarifies what ESG actually means in practice, what the drivers are and where ESG solutions will be found. Our key findings include:

ESG is about supply and demand

While the roots of ESG arise in part from social considerations, ESG is a grassroots movement expressing current demands that matter to investors, consumers and employees. At its most fundamental, ESG connects those parts of the world on which we have not placed an explicit value — clean air, fresh water and a healthy and supportive social fabric — with the financial economy. By explicitly acknowledging these factors, ESG enables us to include in economic decisions specific things we value but formerly failed to measure. Therefore, ESG is a re-evaluation and a broadening of what matters for investors, companies and policymakers. It is a bigger and more accurate picture of value creation.

ESG is everywhere now

ESG started with investors in publicly listed companies but has since spread across the entire financial system. It now extends to public and private companies, financial institutions such as banks and insurers, service providers such as ratings agencies, index providers and consulting firms, and policymakers. Each plays an important role in the ESG value chain, but their motivations and approaches vary considerably.

Technology and know-how drive ESG responses

Impelled by a range of social and cultural values comprising consumer and investor demand, other ESG drivers have increased in importance, including data and analytics, geopolitics, technological change, economic development and financial incentives. As ESG supply expands to meet demand, we expect developments in each of these areas to shape the long-term trajectory of ESG in the marketplace. For example, ongoing improvements in data and analytics will make it easier to measure and account for those areas that previously have not been easily measured, creating a virtuous circle that further drives growth in ESG.

The scope of ESG will continue to evolve

Today, it is fair to say that climate change is the most prominent focus of ESG. Greenhouse gas (GHG) emissions constitute an enormous and largely unpriced negative externality. But the overall scope of ESG is broader and promises to change over time. We identify four trends that will drive developments in ESG in the next 12 to 18 months. These include: a path toward international standards around ESG; the growing importance of transition finance in achieving net zero; greater recognition of nature-related risks; and more focus on the importance of human capital in creating value.

As ESG is increasingly recognized as a necessary response to market demand, solutions will proliferate and improve

We provide a current snapshot of the commercial ESG solution space. While technical innovation, government regulation, standards, policy frameworks, academic research and investor coalitions are enablers of ESG and should work hand in hand with market solutions, we create a market map that categorizes ESG solutions into five groups: investment products and services; data, analytics and research; scores, ratings and indices; regulatory reporting and compliance and integrated tech platforms; and advisory and consulting services.

A market map of ESG solutions

We expect significant growth in five categories.

1 INVESTMENT PRODUCTS AND SERVICES

80% vs 34%

ESG investment fund launches in the US grew at more than twice the rate of non-ESG funds in 2021

2 DATA, ANALYTICS AND RESEARCH

>20%

The annual rate at which spending on ESG data is forecast to grow in 2022

3 SCORES, RATINGS AND INDICES

100

The number of providers in ratings services in October 2021 — double the number a year before

4 REGULATORY REPORTING AND COMPLIANCE

2x

Worldwide ESG risk and reporting software revenues are expected to double between 2020 and 2025 to $720 million

5 ADVISORY AND CONSULTING SERVICES

Number of sustainability consultancy acquisitions

Sources:
Tania Lynn Taylor and Sean Collins, "Ingraining sustainability in the next era of ESG investing", *Deloitte Insights*, 5 April 2022.
Environment Analyst Global, *ESG data market could exceed $1.3bn in 2022*.
Alan Livsey, "Boom in ESG ratings leaves trail of confusion", *Financial Times*, 19 March 2022.
IDC, https://www.idc.com/
Robin Hicks, "Sustainability consultancy acquisitions triple in a year", *Eco-Business*, 19 January 2022.

Chapter 1

The ESG Universe

The ESG Universe

The current decade has represented a tipping point for ESG. Climate change became acknowledged as a crisis that holds material risks for financial markets, the COVID-19 pandemic laid bare the link between wellbeing and economic outcomes, and the Black Lives Matter (BLM) movement, among others, has brought social justice issues to global attention.

Yet, while ESG investing has secured a place in the mainstream, key questions remain unanswered. Perhaps the most fundamental is the definition of ESG itself. The letters stand for Environmental, Social and Governance, but their meanings in practical terms can vary considerably. We still lack a coherent, complete and widely accepted definition that clarifies ESG's scope. That makes it challenging for investment professionals, as well as everyday investors, to identify whether ESG initiatives are being carried out effectively. And, as Olivia S Mitchell, professor at the Wharton School, told the *Wall Street Journal*, "without agreement on what ESG involves, it's virtually impossible to show that ESG helps (or hurts) investment performance."

In this chapter, we explore the roots of ESG and the difference between ESG investing and traditional ethical investing. We then show that ESG is the mechanism that connects market-driven, non-financial metrics to the traditional financial economy. Next, we discuss the expanding reach of ESG, from investors to organizations and corporations and to the worldwide financial system. To conclude, we explore the evidence around ESG and investor returns. We also cover concerns about greenwashing (a term used to describe the practice of a company or organization seeking to convey a false impression about its environmental impact).

ESG is the mechanism that connects market-driven, non-financial metrics to the traditional financial economy.

The roots of ESG are found in social considerations

While ESG may have only recently entered the mainstream, the origins of ESG investing go back much further. For instance, religious groups have taken an ethical approach to investing for as long as asset management has existed, and socially responsible investing (SRI) has been around since the 1960s.

Early attempts at SRI were informal and applied on an ad hoc basis, notably in opposition to the South African apartheid regime, but also targeted to other causes, such as smoking-related illness, civil rights and offensive armaments. Organized SRI first appeared in May 1990, known as the Domini Social 400 Index (now the MSCI KLD 400 Social Index).[1]

The term ESG entered the lexicon with a 2004 landmark study led by the United Nations (UN) that sought to develop guidelines and recommendations to facilitate the integration of environmental, social and governance issues in investment analysis, processes and decision-making. The study, *Who Cares Wins*, a joint initiative of 23 public financial institutions and private banks, was grounded in the belief that incorporating ESG considerations went hand in hand with long-term wealth creation.

Independent efforts coalesced around a formal structure with the formation of the UN-supported Principles for Responsible Investment (PRI) in 2005 (see "A closer look at the UN's Principles for Responsible Investment").[2] Institutional investment consultants, such as Mercer, started offering ESG analysis shortly afterward.[3]

Since then, ESG has become increasingly linked to the UN Sustainable Development Goals (SDGs) agreed by all UN member states in 2015, particularly around impact investing. While the 17 goals were not developed for asset management purposes but for countries, many investors see investing in line with a "shared blueprint for peace and prosperity for people and the planet, now and into the future," as the gold standard.[4]

ESG connects the non-financial economy to the financial economy and establishes a broader measure of value creation

While the roots of ESG may lie in social considerations and many of the early movers were motivated by ethical considerations, it would be a mistake to equate ESG with ethical investing. Effective ESG analysis brings about a significant change in the way companies are valued as a result of its focus on a wider variety of value drivers than traditional investors had previously incorporated.

Financial markets and investors typically use tools at hand to take into account what can be readily measured. As it has become more evident that the full extent of risks and opportunities companies face today is not being captured by conventional financial yardsticks, new frameworks and tools are being developed.

Effective ESG analysis brings about a significant change in the way companies are valued.

This issue is not new. Fifty years ago, enterprise values were much more closely aligned to book values and the hard assets that comprised them, while today intangibles represent a much larger proportion. Think of Amazon in this regard, and the importance of understanding what drives up (or down) the brand value of a business.

At its most fundamental, ESG connects those parts of the world on which we have not placed an explicit value — clean air, fresh water and a healthy and supportive social fabric — with the financial economy. By explicitly acknowledging these factors, ESG enables us to include in economic decisions specific things we value but formerly failed to measure.

ESG is therefore a re-evaluation and a broadening of what matters for investors, companies and policymakers. It is a bigger picture of value creation. And this broadening of the financial universe is leading to many different ways of recognizing and pricing in things that have intrinsic and material value.

At present, climate change is by far the dominant focal point of ESG.[9] And that is understandable as GHG emissions represent a significant negative externality. But the overall scope of ESG is much larger and will change over time (see Exhibit 1). Navigating the ever-evolving landscape of ESG considerations will be more important than ever and become standard procedure in the investment industry.

A closer look at the UN's Principles for Responsible Investment

The UN-supported PRI was founded in 2005 by a group of institutional investors concerned about the creation of a more sustainable global financial system.

The founding 51 signatories have since swelled to more than 4,900, representing most of the world's professionally managed assets.[5]

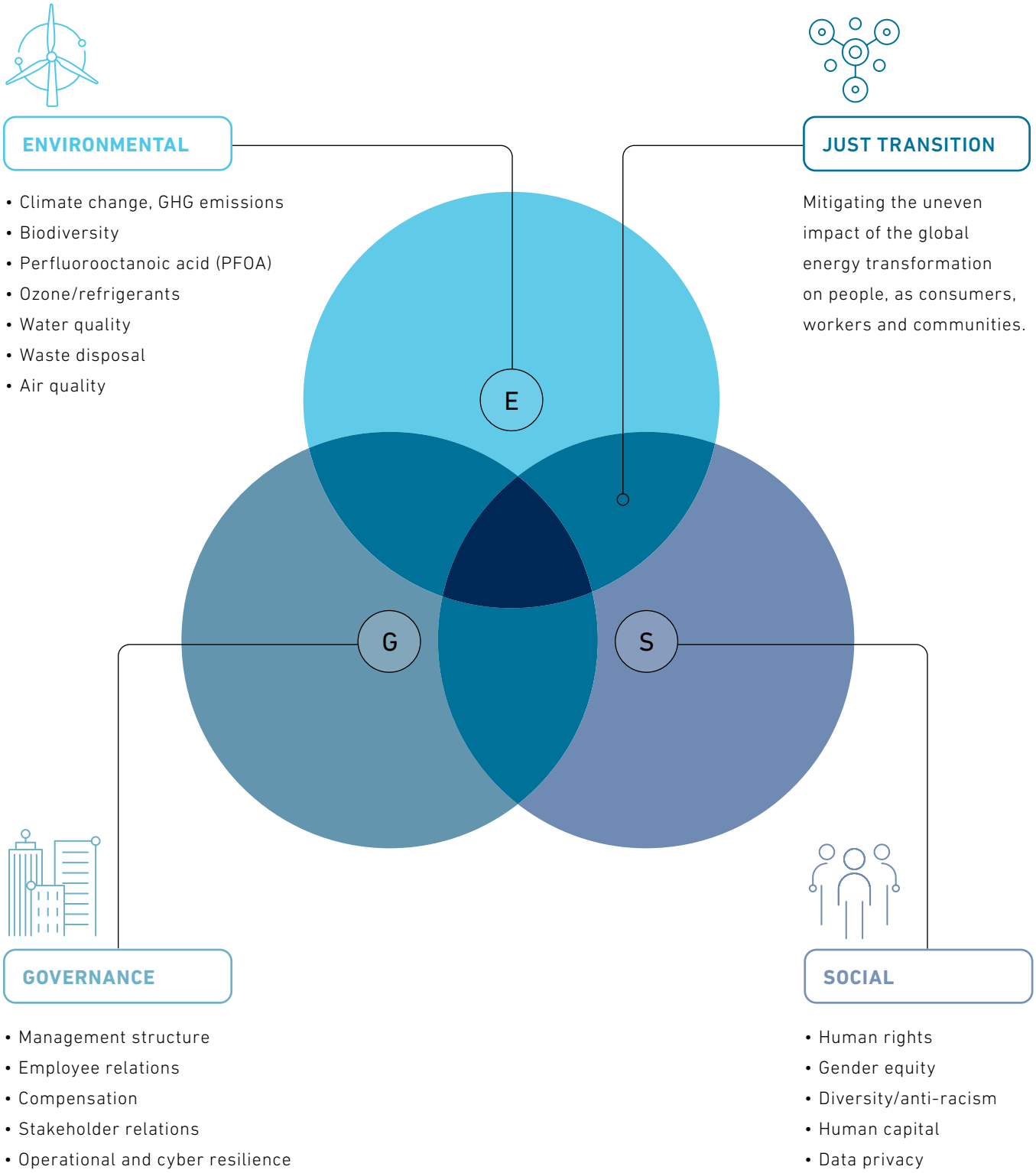
Becoming a signatory publicly demonstrates commitment to ESG and provides access to supporting resources. Asset owners, investment managers and professional service providers are eligible. Signatories are delisted if they do not meet minimum requirements for two consecutive years, but this is rare — 165 were identified as not meeting requirements in 2018 and just five signatories were ultimately delisted in 2020.[6]

The independent nonprofit PRI claims to be the world's leading proponent of responsible investment.[7] It is supported by the UN but is not part of it, and engages with governments but is not associated with them. Its strategic theme for 2021–24 is "building a bridge between financial risk and real-world outcomes."[8]

The PRI's six Principles are:

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 toward implementing the Principles.

Exhibit 1: A snapshot of ESG topics



Source: State Street

The ESG universe extends from investors to the entire global financial system

Rather than representing a break with the past imposed from the top down, ESG is a grassroots, bottom-up movement expressing current demands that matter to markets and investors (see Exhibit 2). And while it started with investors, it has since spread across the entire financial system and now extends to public and private companies, financial institutions such as banks and insurers, service providers such as ratings agencies, and policymakers. Each plays an important role in the ESG value chain, but their motivations and approaches vary considerably.

Asset owners and asset managers are driving ESG growth

Institutional investors, often led by pension funds, and asset managers are increasingly putting pressure on companies to take ESG into account. Almost 80 percent of institutional investors globally say how a company manages ESG risks and opportunities is an important factor in their investment decision-making, while 82 percent say companies should embed ESG directly into their corporate strategy, according to PwC research.[10]

82%

of institutional investors in PwC research said that companies should embed ESG directly into their corporate strategy.

The same research found that investors will act if they think a company is not doing enough about ESG, and the most common tool is engaging with companies to seek change, followed by using their vote and, if necessary, divesting.

Approaches vary considerably, however, according to a 2020 report by ShareAction.[11] It found that no asset manager demonstrated leadership across its entire ESG investment approach. European managers have so far led the way on ESG investment, with Robeco, BNP Paribas Asset Management, LGIM, APG Asset Management and Aviva Investors scoring the highest (see "Regional differences in ESG investing").

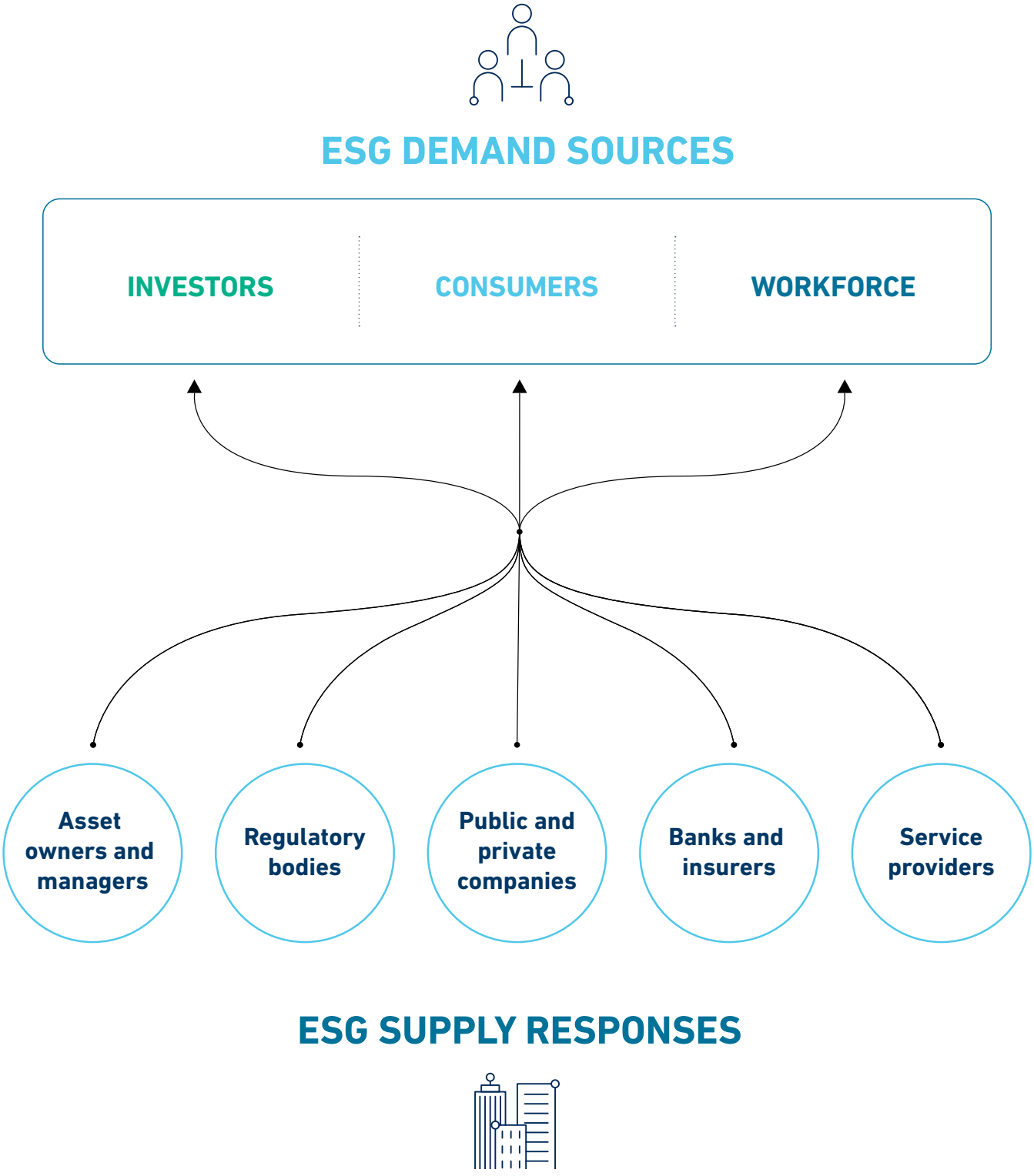
Accurately measuring ESG funds under management is a complicated task. Becoming a signatory to standards such as PRI and/or claiming to comply with the UN SDGs is simple enough; agreeing on the credentials of a particular borderline asset or fund is fraught. There is broad agreement that renewables are ESG compatible, but what about natural gas production, which is still a fossil fuel, and nuclear power generation, which comes with its own safety and sustainability concerns?

Every institution has its own definitions and standards, with different results, as many aspects of ESG are qualitative in nature. Furthermore, official standards change over time — often improving, as in the case of environmental standards — and do not necessarily produce clean-cut results, even at a single point in time.

Despite the challenges, there is enough data to confirm ESG investing has been growing rapidly and is set to continue doing so. In July 2021, Bloomberg Intelligence predicted global ESG assets would rise from $35 trillion in 2020 to $50 trillion by 2025.

Exhibit 2: Demand drives the ESG supply response

ESG began in the investment industry but now extends across the financial industry.



Regional differences in ESG investing

ESG investing is growing strongly in every region, confirmed in the GSIA's biennial Global Sustainable Investment Review (2020).[17] Adoption of practices, however, is quicker in some parts of the world than others.

There are several reasons for this:

First, there are differences between emerging and mature economies. Companies in emerging markets typically have lower levels of ESG disclosure and weaker corporate governance norms.[18] Intergovernmental discussions at the UN's COP26 climate conference in Glasgow in 2021 recognized the affordability challenge of ESG in low-income countries (net-zero targets are often later, such as 2060 for China and 2070 for India). The Taskforce on Access to Climate Finance was created earlier in the year to encourage "coherent and effective support for developing countries' efforts to decarbonize their economies, adapt to climate change and establish green growth pathways."[19]

Second, there are striking differences between how Europe, the US and Asia Pacific are addressing ESG investment. The Hirschel and Kramer Responsible Investment Brand Index 2021 report analyzed the situation with asset managers. According to the report, Europe leads the way with both Asia Pacific and US managers currently behind. The report notes that "while part of the world (notably Europe), continues to make great strides by embedding ESG approaches into their companies, other regions (notably North America) are lagging."[20] Morningstar calculated in Q3 2021 that sustainable funds in Europe stood at $3.4 trillion (88 percent of the global total), in the US at $330.7 billion (8 percent) and Asia ex-Japan, at $50 billion (1 percent).[21] Due to the way sustainable investment is defined, however, international comparison is not straightforward.

Third, there are differences within regions and between individual companies. UK asset managers, for instance, lag behind mainland Europe with regard to ESG commitment. Within the US, there are large differences between states. Many individual companies in both Asia and the US are committed to improving their ESG scores, and are making improvements.

Studies of consumer attitudes have arrived at a similar conclusion. A bfinance report found that three in five (61 percent) Europeans consider ESG issues of high importance to their investment strategy and implementation. Only a third of those in Asia Pacific and a quarter in North America share the same view. The report also found that three in ten North Americans feel ESG issues are either of minor or no importance. This compares unfavorably with both Asia Pacific and Europe, where scores are 5 percent and 10 percent respectively.[22]

That said, while Europe is the leader in environmental considerations, especially climate change, the US is the leader in diversity, equity and inclusion (DEI) considerations.[23]

The 2025 figure includes $1 trillion of ETFs and $11 trillion in debt, all from a total AUM of $140 trillion.[12] Both the Global Sustainable Investment Alliance (GSIA) and Statista produced similar numbers for their estimates of 2020 ESG AUM.[13]

Other organizations, however, have stricter definitions of what constitutes an ESG fund. Morningstar stated that global sustainable fund assets stood at $3.9 trillion at the end of September 2021.[14] It has since reviewed and delisted a substantial portion of European Union (EU) ESG funds.

Meanwhile, fintech Broadridge Financial Solutions lands somewhere in the middle. In December 2021, it predicted global ESG investments would grow from $8 trillion today to between $14 trillion and $30 trillion by 2030.[15] PwC suggests ESG is "the growth opportunity of the century." It predicts ESG AUM in the EU alone could hit €7.6 trillion ($8.27 trillion) by 2025, or 57 percent of total assets.[16]

Regulators are scrambling to keep up with investors

Early efforts to create ESG standards and disclosure grew out of investor and private sector coalitions and inform much of the ESG-related policy being introduced around the world today. One such framework, widely recognized among policymakers, regulators and industry stakeholders is the 2017 recommendations issued by the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD). While governments and authorities globally have taken steps to introduce regulations around ESG across the investment ecosystem in recent years, none has gone as far as the EU (see "Geographical regulatory differences add to complexity").

The European Securities and Markets Authority (ESMA) recently set out its Sustainable Finance Roadmap for 2022–24 in response to inconsistencies across regulatory requirements, complexity for investors and concerns over greenwashing.[24] The roadmap aims to improve the capabilities of national competent authorities and ESMA itself in this area, as well as monitor, assess and analyze ESG markets and risks.

The roadmap follows the Sustainable Finance Disclosure Regulation (SFDR), introduced in March 2021, while the EU Taxonomy, a classification system that establishes a list of environmentally sustainable economic activities, has applied from January 2022.

Also in 2022, the UK will become the first G20 country to mandate large businesses to disclose their climate-related risks and opportunities in line with the TCFD recommendations, which will cover banks, insurers and large private companies.[25] The government introduced mandatory climate reporting for large pension schemes and master trusts from October 2021.

Energy and Climate Change Minister Greg Hands said for the UK to meet its net-zero commitments by 2050, "we need our thriving financial system, including our largest businesses and investors, to put climate change at the heart of their activities and decision-making."[26]

In October 2021, the government's Greening Finance Roadmap set out plans for introducing Sustainability Disclosure Requirements and a Green Taxonomy to evaluate corporate environmental behavior and counter greenwashing.[27]

Geographical regulatory differences add to complexity

Each country is seeking to address sustainability concerns in its own way, with its own set of regulatory sanctions and political commitments.

The disparate regional investor attitudes noted above are likely a driver of regulatory divergence. Examples include:

In Europe, strong demand from investors is driving regulations that are agreed at the European level and then enacted into binding national law. The biggest regulatory development in Europe is SFDR. It requires asset managers to disclose ESG risks within their portfolios and state how they plan to address them.

In the US, certain states such as California have taken the lead on sustainability. President Biden has made mitigating climate change a priority, pledging to reduce carbon emissions by 50–52 percent from 2005 levels by 2030 and reaffirming his aim to deliver 100 percent clean electricity by 2035.

China, Japan and South Korea have established mandatory carbon markets, with the latter two aiming to achieve carbon neutrality by 2050, and the former by 2060 or sooner. Further regulation includes the PBOC Notice on Green Finance Evaluation Plan for Banking Financial Institutions in China, and HKMA Draft SPM Module GS-1 on Climate Risk Management in Hong Kong. As the concentration of emerging economies is greater in Asia than in either the US or Europe, the region faces additional challenges to align sustainable practices with the imperative of economic development. Indeed, many agreements made at the UN climate conference in Glasgow last November (COP26) provide leeway for emerging nations.

In Asia, the Hong Kong Securities and Futures Commission (SFC) has been developing green and sustainable finance initiatives to position itself as an international green finance hub.[28] In September 2018, the regulator unveiled its Strategic Framework for Green Finance, setting out plans to improve ESG product and asset manager disclosures, especially climate risks. The SFC also published guidance in June 2021 on enhanced disclosures for funds that incorporate ESG to help investors understand these products and assess whether they meet their investment needs.

In December 2020, the Green and Sustainable Finance Cross-Agency Steering Group announced its strategy for Hong Kong, setting out several actions, including introducing a mandatory requirement for climate-related disclosures to align with the TCFD's recommendations across relevant sectors by 2025 and adopting the Common Ground Taxonomy.[29]

The US has lagged behind Europe and Asia for some time on ESG, but that is changing under President Biden's administration, with an SEC proposal introduced in March 2022 that would require US publicly listed companies to disclose their climate-related risks and GHG emissions.[30] The proposal requires public companies to disclose extensive climate-related information, GHG emissions and climate-related financial metrics and have these disclosures verified by a third party. If this proposal or a variation of it becomes law, it will be the first mandated climate disclosures in the US and would apply to most public companies beginning in 2023. Additionally, at the end of May, the SEC proposed new disclosure requirements for funds and advisors that market themselves as having an ESG focus.[31]

According to the Financial Stability Board's 2021 update, the number of countries that have expressed their support for the TCFD recommendations has increased by more than a third since its 2020 status report.

Public companies are responding to investors and regulators — and private companies are taking notice

As policymakers and investors have increased their focus on ESG, companies have had to pay closer attention to these issues. This is especially true in relation to the environment and climate, as a firm's carbon emissions can be readily measured and reported. Many companies across the globe have now committed to being net-zero emitters by 2050 or earlier, including oil majors such as BP, Shell, Equinor and Total.

Meanwhile, the TCFD's recommendations around climate disclosures have been widely adopted by many companies globally.[32] The TCFD's recommendations are based on four thematic areas: governance, strategy, risk management, and metrics and targets.

In the UK, the TCFD reporting rules are mandatory for premium-listed companies and will apply to most other firms by 2025.

According to the Financial Stability Board's 2021 update, the number of countries that have expressed their support for the TCFD recommendations has increased by more than a third since its 2020 status report. Some 89 countries now support TCFD, covering companies with a combined market capitalization of over $25 trillion.[33]

Unlisted or private companies are subject to less scrutiny and fewer regulations around ESG issues than their public counterparts. The climate-related reporting rules introduced in the UK and Europe have been largely targeted at public companies, but the private company sector is increasingly taking notice, as are regulators (see "Shining a light on ESG in private markets").

Large private companies will have to comply with the EU's Corporate Sustainability Reporting Directive (CSRD) and Taxonomy Regulation by 2023, with all small and medium-sized enterprises following suit by 2026.

At the same time, private equity investors are paying more attention to ESG issues. EY notes that "while most PE firms include ESG as a non-financial risk to review investment decisions, some also embrace ESG as a tool to identify opportunities for value creation during the deal life cycle."[34]

The World Benchmarking Alliance plays a key role in representing organizations on a global, regional and local basis to help the private sector contribute to the UN's SDGs.[35] The alliance says it believes "in the power of benchmarks and cross-sector partnerships to drive systemic progress on the SDGs."

Financial institutions are also paying attention to ESG as regulatory and reporting requirements become more widespread

Financial institutions, such as banks and insurance companies, are paying closer attention to ESG, especially since the introduction of more stringent regulatory and reporting requirements. EU institutions must comply with the SFDR and US ones with the Executive Order on Climate-Related Financial Risk.

8 in 10

financial services institutions in research by Marsh McLennan ranked climate change and ESG as an important or the most important issue for their operations.

Eight in 10 financial services institutions rank climate change and ESG as either an important, or the most important, issue for their operations, according to research by Marsh McLennan.[39]

These institutions' ESG performance influences investment decision-making, lending criteria and insurance considerations. Approaches commonly include calculating environmental impacts, such as assessing total carbon emissions and making a commitment to be net-zero, the study stated.[40]

Banks are coming under increased pressure to reduce and ultimately eliminate their financing of fossil fuel companies and projects. For example, HSBC came under fire in 2021 for its financing of upstream oil and gas companies, with a resolution launched by shareholders backed by climate change lobby group ShareAction.[41] The bank has since agreed to phase down financing of fossil fuels in line with limiting global temperature rise to 1.5°C, and update the scope of its oil, gas and thermal coal policies by the end of 2022.[42]

Service providers are filling gaps in the ESG universe

Data providers play an important role in the ESG value chain by helping investors and companies analyze aspects critical to

Shining a light on ESG in private markets

Much of the focus on how companies are transitioning to more sustainable practices has focused on public companies, but a sharp uptick in private market adoption is also in progress.

European private markets' ESG AUM rose from €103.1 billion ($111.97 billion) in 2015 to €252.9 billion at the end of 2020. This trajectory is forecast to steepen sharply over coming years, rising to between €775.7 billion and €1.2 trillion by 2025, according to PwC, equating to between 27.2 percent and 42.4 percent of the private markets' total asset base.[36]

While all types of private companies are part of this trend, some are set to play a larger role than others. PwC expects real estate and infrastructure to experience particularly striking increases in ESG assets.

As private market ESG matures, the number of companies adopting such strategies will continue to rise. This is partly due to the growing realization that failing to consider ESG metrics will likely come at the expense of future profitability.

Data on the private equity market underscores the value firms are placing on sustainability. Almost three-quarters of firms (72 percent) always screen target companies for ESG risks and opportunities at the pre-acquisition stage.[37] In addition, 65 percent have developed a responsible investing or ESG policy and the necessary tools to implement it.

In real estate, ESG is becoming a key consideration at every stage of the property lifecycle, from purchase to due diligence to managing the assets. Some 60 percent of real estate companies have already adopted ESG criteria in their investment strategies. This is very much a global movement, with real estate firms in the Americas, EMEA and Asia Pacific all upping their focus on ESG issues.[38]

McKinsey & Company's annual review of private markets notes, "More institutional investors are incorporating consideration of ESG factors in their investment decisions."

The report also underscores the pivotal role private markets will play in helping companies reach their net-zero carbon emissions targets. It states that "reaching net zero by 2050 may require an incremental $3.5 trillion per year in decarbonization capex, comparable to one-third of current private markets assets under management."

Within private markets, much of the focus to date has been on governance as a driver of performance. The McKinsey report, however, notes that environmental factors are rising up the agenda for private companies.

sustainability, such as calculating their carbon footprint and helping them comply with regulations such as the SFDR and TCFD.[43]

Some providers go further than others. For example, Ortec applies the academic rigor of econometrics and climate modeling to help to optimize companies' decision-making and create sustainable value for businesses and society.[44]

Rating providers help investors with transparency and help companies improve their ESG practices. They ensure the "good functioning of relevant and comparable ESG-related information to support investment decision-making," according to ESMA.[45]

Approaches among ratings providers, however, can differ widely. Agencies rate companies using their bespoke ESG policies, systems and measures, as well as collecting data from multiple external sources, according to Deloitte.[46] Some ESG rating systems are performance-based while others are risk-based.

As there are hundreds of ESG ratings providers — each relying on different data sources and internal methodologies — they frequently reach very different conclusions. For example, electric vehicle maker Tesla received a top ESG rating from MSCI and a bottom rating from FTSE in the same year.[47] Over time though, we would expect a handful of rating agencies to emerge as the most trusted benchmarks.

Leading providers of datasets evaluating company-level ESG performance include MSCI, ISS, S&P, Sustainalytics, IdealRatings and Truvalue Labs. (For more details about service providers, see Chapter 3: The Solution Space.)

Challenges for ESG include inconclusive evidence around ESG and investor returns and the battle against greenwashing

A significant challenge for ESG is that the evidence connecting ESG to financial returns to date is inconclusive, which creates a considerable hurdle for some investors.

There are good reasons why the evidence is inconclusive. First, each of the key elements of ESG has a myriad set of issues and metrics without much history at the company level for researchers to test impact. Second, the definition of ESG funds has been constantly evolving, and new funds have been rapidly launched with hugely varying definitions and standards. Third, ESG risks are, by their nature, long term — the potential value destruction from rising temperatures, for example, or value creation from investments in human capital. Fourth, comparison of performance that includes the past two highly unusual years — including the pandemic and its economic impact, such as labor shortages, supply chain disruptions and rising inflation, as well as more recently, the conflict in Ukraine — necessarily includes the rollercoaster ride experienced by the energy sector.

There have long been concerns that ESG factors will prove costly for companies and financial service providers to incorporate, holding back aggregate financial growth. However, damaging disclosures regarding ESG can also result in loss of trust and reputation, as well as financial loss to a company. Trust is difficult to rebuild.

The market demand for ESG has been met without material impairment to economic performance so far. Morningstar's analysis of its own ESG-screened indexes for the five years from 2016 found the indexes outperformed whole-market indexes and provided better downside protection.[48] It examined 65 unique indexes and found 88 percent outperformed their broad market equivalents over the period. It also found that 91 percent lost less than their broad market equivalents during the down markets, including the pandemic-induced bear market of the first quarter of 2020.

Morningstar attributed some of the findings to the relative outperformance of the technology sector over the energy sector — but also to ESG-led security selection within industries. It also found that ESG screens led to better performance outside the US.[49]

Sustainalytics, a Morningstar company, produced a report on the synergies between its own ESG Risk Ratings and Morningstar's Economic Moat Ratings (which capture the durability of competitive advantage). It found they perform "exceptionally well" in combination when creating investment strategies, in terms of portfolio returns and risk.[50]

A Harvard Law School Forum on Corporate Governance paper noted the regulatory conversation "has relied on theoretical concerns and anecdotal evidence" and, combined with rapid fund flows, "demonstrates the compelling need for greater empirical analysis directly targeting the regulators' concerns."

It investigated whether the ESG funds actually deliver investment exposure to ESG goals and whether demand for ESG investing led to overpriced, greenwashed funds. Over a

Despite ESG funds being marketed for well over a decade, the claims were almost entirely unregulated until the past few years.

2018–19 timeframe, it found "no evidence that ESG funds cost investors more or that they underperform their non-ESG counterparts."

The NYU Stern Center for Sustainable Business produced a 2021 meta-analysis on ESG and financial performance of underlying companies. It combined more than 1,000 studies published between 2015 and 2020 and reached several conclusions:[51]

- Improved financial performance due to ESG becomes more marked over longer time horizons.
- ESG integration broadly seems to perform better than negative screening.
- ESG investing appears to provide downside protection, especially during crises.
- Corporate sustainability initiatives appear to drive better financial performance indirectly (i.e., through improved risk management and/or innovation).
- Managing for a low-carbon future improves financial performance. ESG disclosure on its own does not drive financial performance.

Greenwashers won't just fail to meet demand, they invite inevitable exposure and risk eroding trust in their business.

In addition to measuring performance, there are challenges associated with the rise of greenwashing. Despite ESG funds being marketed for well over a decade, the claims were almost entirely unregulated until the past few years. PRI claims signatories manage more than half of global managed assets, but even the most enthusiastic estimates put the share of ESG funds far lower.

Greenwashing matters because it negatively impacts several different areas. Using the UK Financial Conduct Authority (FCA) definition, "a failure to deliver fair outcomes for consumers" is financial mis-selling. It results in investors being exposed to ESG risks they thought they had avoided and robs them of ESG opportunities. It undermines the business model of asset managers offering funds with genuine ESG benefits. From a macroeconomic perspective, misallocating capital creates inefficiencies.

In the fourth quarter of 2021, Morningstar dramatically reduced the number of European funds it recognizes as sustainable by 27 percent, or 1,600 funds, with combined AUM of $1.2 trillion.[52] It did so after further researching the claims of the funds, and has not yet turned its attention outside of Europe.

Longer term, the days of greenwashing are numbered. For purely commercial reasons, the financial industry will continue to develop disclosure standards and performance metrics that are consistent with, and support, market demand. Greenwashers won't just fail to meet demand, they invite inevitable exposure and risk eroding trust in their business. We expect that the financial businesses that win will meet the market demand for integrity in ESG. In the short term, ESG may require investment, but if successful in meeting demand it will pay off later.

In this chapter, we explored ESG's definition and scope. The ESG universe is expanding, both in terms of ESG considerations that are being taken into account in financial decision-making, as well as the number and variety of financial market participants that ESG touches. We expect this widening trend to continue. The very nature of ESG means it is constantly evolving, and with improving data and technology more tools will be available to facilitate it. In the next chapter, we highlight the long-term drivers of ESG as well as the trends that we believe will matter in the next 12 to 18 months.

Chapter 2

A Roadmap for ESG

A Roadmap for ESG

The humanitarian, political and economic shockwaves of Russia's invasion of Ukraine are still reverberating. And as a result, ESG investors and companies that incorporate ESG considerations into their business models have suddenly found themselves rethinking long held assumptions.

Up to now, most ESG initiatives coalesced around climate change, diversity and corporate governance. But new risks, such as war, energy security and humanitarian concerns, are broadening the scope of what is meant by sustainability. In this chapter, we provide a framework to understand the longer-term drivers of ESG, including data and analytics, social norms, geopolitics, technological change, economic needs and financial incentives. We then focus on trends we expect to drive developments in ESG over the coming 12 to 18 months.

Long-term drivers of ESG

In Chapter 1, we saw that the origins of ESG were rooted in ethical considerations. While social and cultural norms still play a role in shaping ESG, other drivers have increased in importance. These include:

1. Data and analytics

The growing availability of data and better tools to aggregate, collect and analyze data have been critical for integrating ESG considerations into economic and financial decision-making. While this has been a continual trend over long periods, it has accelerated as a result of better methods of data acquisition, storage and transmission.

In the 19th century, much was invisible — how many children were working in factories, how many injuries occurred, how many people were sickened from eating tainted food, etc. We now have the ability to collect, store and transmit far more data, but also face greater demands for transparency. Inexpensive satellite imagery makes it much easier to observe the planet and what is happening: the number of people in parking lots, the number of trees being felled, water levels, etc. Internet services "scraping" or otherwise acquiring data from consumers, such as Glassdoor (an American website where current and former employees anonymously review companies), create new opinion-driven data sets.

New factors we might focus on in the future may be impossible now. In the physical world, new data possibilities may mean gaining a more granular understanding of the negative environmental impact of an activity, tracing it all the way back to source, and in the social context it may mean corporate behaviors come into view more clearly. Data and analytics increase transparency, which also increases the adoption of ESG.

2. Geopolitics

Russia's shocking invasion of Ukraine brought to the fore what had previously been peripheral considerations for some ESG professionals. Concerns about fundamental human rights have been revived. European nations face new national security realities as geopolitical strategy is being re-evaluated worldwide. And Russia's threats have even renewed

New risks such as war, energy security and humanitarian concerns are broadening the scope of what is meant by sustainability.

Countries where there is a possibility of the political system creating economic and reputational risks are being more carefully scrutinized.

fears of nuclear Armageddon. Countries where there is a possibility of the political system creating economic and reputational risks are being more carefully scrutinized. With a wholesale reordering of global geopolitics now underway, it appears likely this will remain a driver of ESG for some time.

3. Technological change

The pace of technological change is accelerating and, with it, the ability of new technologies to transform political, social and economic systems. This is not just due to the information revolution and the digital age but also to smart robotics, automation and artificial intelligence. In addition, there are advances in biological science that harness the machinery of life itself and offer revolutionary benefits. For example, plant-based proteins and lab-grown meat could have the potential to cut GHG emissions substantially.

Yet amidst all this promise, there are serious threats to basic human rights, as well as risks to human health and safety. These range from threats to privacy and the exploitation of personal data for commercial and political uses to genetically engineered plants and animals that could alter the ecosystem. Understanding the implications of these advances and how to mitigate the risks will be a critical driver of ESG going forward.

4. Economic development

Maslow's hierarchy of needs suggests that as people's basic needs such as food and shelter are met, it is natural that their motivation moves in the direction of self-actualization. This ascendance is typically expressed in consumer preferences and, hence, is relevant for companies and investors and something that will be an important driver as emerging economies grow and become more mature.

Yet self-actualization might differ with different values and norms. Consider, for example, the increase in concern for animal rights. In the UK and some other countries this thinking has developed in parallel with scientific knowledge about sentience in animals, but in other developed countries such as Sweden the topic has gained less prominence.

5. Financial incentives

As research and valuation tools improve and the availability of data multiplies, it is inevitable that profit motives kick in to drive ESG trends on two levels. First, the desire of investors to realize gain by making better decisions and avoiding pitfalls will be key. Second, the marketplace for financial products will drive people to innovate more in order to marry products to emerging and previously unrevealed preferences. We will acquire more evidence surrounding ESG and financial returns, and this linkage will drive product and service developments in the ESG universe.

Short-term trends in ESG

As the ESG landscape continues to evolve, it will be more important than ever to understand and anticipate key developments. Four trends stand out:

- A path toward ESG international standards
- The growing importance of transition finance in achieving net zero
- Greater recognition of nature-related risks
- More focus on the critical importance of human capital in creating economic value

We expect developments in each of these trends to drive activity in the ESG universe over the next 18 months. In this section, we provide an overview of each trend and highlight their implications.

Measuring ESG: Toward international standards of disclosure

The most critical building block of ESG is measurement. Without a common metric, ESG considerations cannot be valued or compared. However, even if investors can agree on which metrics are relevant, consistent disclosure by issuers is critical in order to enhance reliability and comparability across the investment universe. Efforts to promote a common disclosure framework began in the financial industry with voluntary climate-related financial disclosures and are spreading to other ESG considerations, as well as mandated disclosure requirements imposed by regulators.[53]

The 2017 recommendations issued by the Financial Stability Board's TCFD provided a framework that is widely recognized amongst policymakers, regulators and industry stakeholders. Using this framework, companies can develop strategies to plan for climate-related risks and make their businesses resilient to the impacts of climate change.[54] The largely voluntary nature of the TCFD framework to date, however, has resulted in gaps and inconsistencies in corporate approaches to climate disclosures.

As a result, there has been a proliferation of global activity, both regulatory and voluntary, to address these gaps and inconsistencies in climate-related disclosure. As identified by the International Organization of Securities Commissions (IOSCO), we now have over 30 different frameworks. The multiplicity and diversity of these frameworks make it difficult for companies to decide which is the most appropriate framework to report against.[55]

Transparency has been a critical focus of regulators globally, particularly with respect to promoting public disclosure of climate-related information. In this regard, policymakers have focused on two core aspects: information that companies need to provide, primarily to investors, on climate-related risks and opportunities posed to their businesses; and information that financial products (including registered funds) need to provide.

As regulators turned policy agendas toward sustainable finance, groups such as the Network for Greening the Financial System (NGFS) were established, encouraging governments to push for the adoption of the TCFD framework.[56] Since then, several jurisdictions have not only vocalized their support of the TCFD framework but have made serious headway in implementing the framework on a mandatory basis. For example:

The most critical building block of ESG is measurement. Without a common metric, ESG considerations cannot be valued or compared.

- The EU adopted a sustainability focus extending beyond climate change as part of its SFDR. SFDR requires banks, asset managers, insurers and others to disclose sustainability-related risks, including adverse impacts, at the entity and product level.
- The UK government outlined full TCFD implementation across the financial services sector by 2025, starting with the largest pension schemes, premium-listed entities and insurers.[57]
- The US SEC issued a proposal for new mandatory climate risk disclosures in March 2022, which introduces full disclosure in all issuers' registration statements and annual reports of Scope 1 and Scope 2 GHG emissions, with Scope 3 disclosures required when material or when a company has set explicit climate targets. This also builds on TCFD.
- In Asia, several countries have committed to introducing disclosure requirements based on TCFD recommendations. Starting in June 2022, in Singapore, banks, insurers and asset managers are expected to make climate-related disclosures. In August, in Hong Kong, large fund managers are expected to make baseline disclosures around climate risk. This year, China updated its environmental disclosure regulations from 2015 and is planning on putting in place a "basic mandatory disclosure system" by 2025.[58]

The EU's approach goes beyond the TCFD framework, and the EU standard has somewhat influenced policy direction in other jurisdictions. For instance, at the end of 2021, the UK's FCA released its final policy statement concerning TCFD-like disclosures for asset managers, which also adopted SFDR-like attributes in terms of providing disclosure at both the entity and product-specific levels.[59] In addition, the UK recently consulted on new Sustainability Disclosure Requirements (SDR) to introduce a labeling and classification system for financial products (including registered investment funds), mapping against existing SFDR classifications. It is fair to say that the EU's "first-mover" advantage indicates that its ESG-related policy could be promulgated in many other jurisdictions.

Recognizing the growing potential for regulatory fragmentation in this area and the potential cost on market participants, international standards-setters have identified globally consistent corporate sustainability reporting as an "urgent need."[60] The International Financial Reporting Standards (IFRS) Foundation, as a result of increasing stakeholder pressure, established a new International Sustainability Standards Board (ISSB) in 2021, responsible for developing global standards leveraging the TCFD and other widely accepted frameworks, such as the Value Reporting Foundation (formerly SASB).

It remains to be seen to what extent a global baseline can be achieved, as it depends on the uptake across major jurisdictions, particularly should the ISSB mandate move beyond climate risk to broader environmental and/or social risks, as is expected in due course. There now exists, however, a plausible path to achieve a single global standard. And the continued push from the EU to develop ESG standards, combined with the latest climate risk disclosure mandate proposals from the SEC, indicate there will be further developments in this area (see Exhibit 3).

Exhibit 3: Key developments expected in global ESG disclosure standards and regulations

The growing importance of transition finance in achieving net zero

The warming of the planet and increasing unpredictability of climate has led to a consensus among world nations to design a blueprint to reduce carbon emissions, the leading cause of climate change. Multiple companies and stakeholders across various sectors have joined the so-called net-zero initiative, which aims to balance GHG emissions released and removed by 2050, in line with the agreed Paris Climate Accords.

To understand the speed and scale required to reach net zero by 2050, consider the industrial revolution. Historians tell us that the transition from traditional agrarian societies to the early 20th century's industrial colossus spanned 180 years. Transition to net zero requires reordering a far larger and more complex global economy involving eight times as many people. In other words, it is a bigger project with a shorter timeline.

The finance industry will play a central role. Net zero requires massive amounts of capital. A McKinsey & Company report analyzed what was needed to achieve the transition to net zero by 2050.[61] The report shows that carbon dioxide and methane emissions come from seven energy and land-use systems: power, industry, mobility, buildings, agriculture, forestry and waste. To achieve the transition, capital spending on physical assets in these seven areas would need a boost of more than $3 trillion a year for each of the next 30 years.

Simple approaches won't match the size of the task and making trade-offs will be essential. When the EU proposed to include nuclear power and natural gas in its green taxonomy, it signaled recognition of the complexities of net zero.[62] Nuclear power has long been an environmental and safety concern, but net zero is challenging old assumptions.

Acknowledging the complexities is an important step. What is needed is to adopt multiple and sometimes conflicting approaches simultaneously, and to abandon efforts that don't show promise. Regional and socioeconomic differences may have to be tolerated so long as progress toward net zero never stops.

The transition will have a bigger impact on emerging economies. According to the International Energy Agency, investments in clean energy in emerging and developing economies will need to increase sevenfold by the end of this decade, after a decreasing trend in recent years.[63] Such large investments must be managed to ensure continued growth, since these economies tend to be at an energy-intensive stage where increments to GDP require more energy than in developed economies. And they may also have legacy energy-generation systems.

The transition will have an uneven impact on lives and livelihoods. According to the Council for Inclusive Capitalism, more than 100 million people could be susceptible to poverty and climate risk exposure by 2050 without adaptation and

7x

Necessary investment increase by the end of this decade in clean energy in emerging and developing countries, according to the International Energy Agency.

For the finance industry, business as usual is not a viable option. Net zero is the biggest investment challenge facing humankind.

mitigation efforts.[64] Growing recognition that the impact of the transition on people — as consumers, workers, and communities — will be uneven (not just between countries but within countries) has given rise to calls for a "just" energy transition.

So, where are we in the transition? According to the UN, more than 70 countries, including China, the US and those in the EU, have set a net-zero target. These countries account for about three-quarters of global emissions. More than 1,200 companies have put in place science-based targets in line with net zero, and more than 1,000 cities, over 1,000 educational institutions and more than 400 financial institutions have pledged to take action on emissions.[65]

Yet despite these targets and pledges, the UN notes that current plans fall short of meeting the 2050 net-zero emissions target.

For the finance industry, business as usual is not a viable option. Net zero is the biggest investment challenge facing humankind. The energy transition will impact every aspect of finance and the economy. The Glasgow Financial Alliance for Net Zero (GFANZ), which formed last year, has highlighted that achieving Paris Agreement goals requires an economy-wide transition in which "every company, bank, insurer and investor will need to adjust their business models, develop credible plans for the transition to a low-carbon, climate resilient future and then implement those plans."[66]

Some investors to date have focused on portfolio decarbonization (that is, reducing the carbon intensity of a portfolio by including companies with fewer carbon emissions or with credible plans for emissions reduction) as a solution. But that is not the same as real-world decarbonization. Changing the ownership of brown assets doesn't do anything to move the world closer to net zero, and may even make things worse given the huge amount of funding needed to facilitate the global energy transition.

Another option is using share ownership positions, and the voting power associated with those positions, to engage with portfolio companies to critically evaluate whether a company is taking sufficient steps to recognize and act on climate risk. Moreover, in many cases, the very same companies that are the usual targets of divestment, particularly energy companies, often possess the know-how that will be required to solve for an effective transition.

The industry's future may be in transition finance. This involves asset owners, investors, multilateral development banks, investment banks and governments coming together to find creative solutions to fund the transition. Financial players need to take the lead in establishing systems that will deploy capital at scale and harness the tremendous power of markets and competition.

Groups such as the World Economic Forum and the Sustainable Markets Initiatives (SMI) are now actively examining how to achieve these goals. For example, to facilitate necessary flows of investment capital, institutional investors will need new investment categories. Common agreement on green investment categories will accelerate the effective deployment of funds. To further that end, the SMI is working to define a dedicated transition investment category.

The transition to net zero is a huge challenge, but it may become the greatest opportunity the finance industry has yet seen.

Recently, State Street's Global Head of ESG, Rick Lacaille, and Ninety One's Chief Executive Officer, Hendrik du Toit, laid out a framework for transition finance that includes: the meaningful uptake of ownership risk in brown industries by publicly funded entities; large-scale transition finance provided by both private and publicly funded entities; well-functioning, transparent emissions measurement, pricing and markets; publicly funded investments in basic research; privately funded investments in technology, services and equipment that will be required for transition; and unwinding public support frameworks as businesses become green.[67]

The transition to net zero is a huge challenge, but it may become the greatest opportunity the finance industry has yet seen. We expect developments in this area to shape how environmental considerations are incorporated in financial and business decision-making.

The next frontier in E: Nature-related risks

Since the Paris Climate Agreement of 2015, reducing GHG emissions has been a growing focus of the financial industry and a priority for policymakers around the world. But what has become more apparent with these efforts is the interconnection between a warming planet and the depletion of natural resources.

The world's stock of natural resources performs a range of services, often called ecosystem services (ESS), that the human race depends on for survival. Think of living organisms like forests and animals, or soils, air and glaciers that provide us with food, fuel, water and wood.

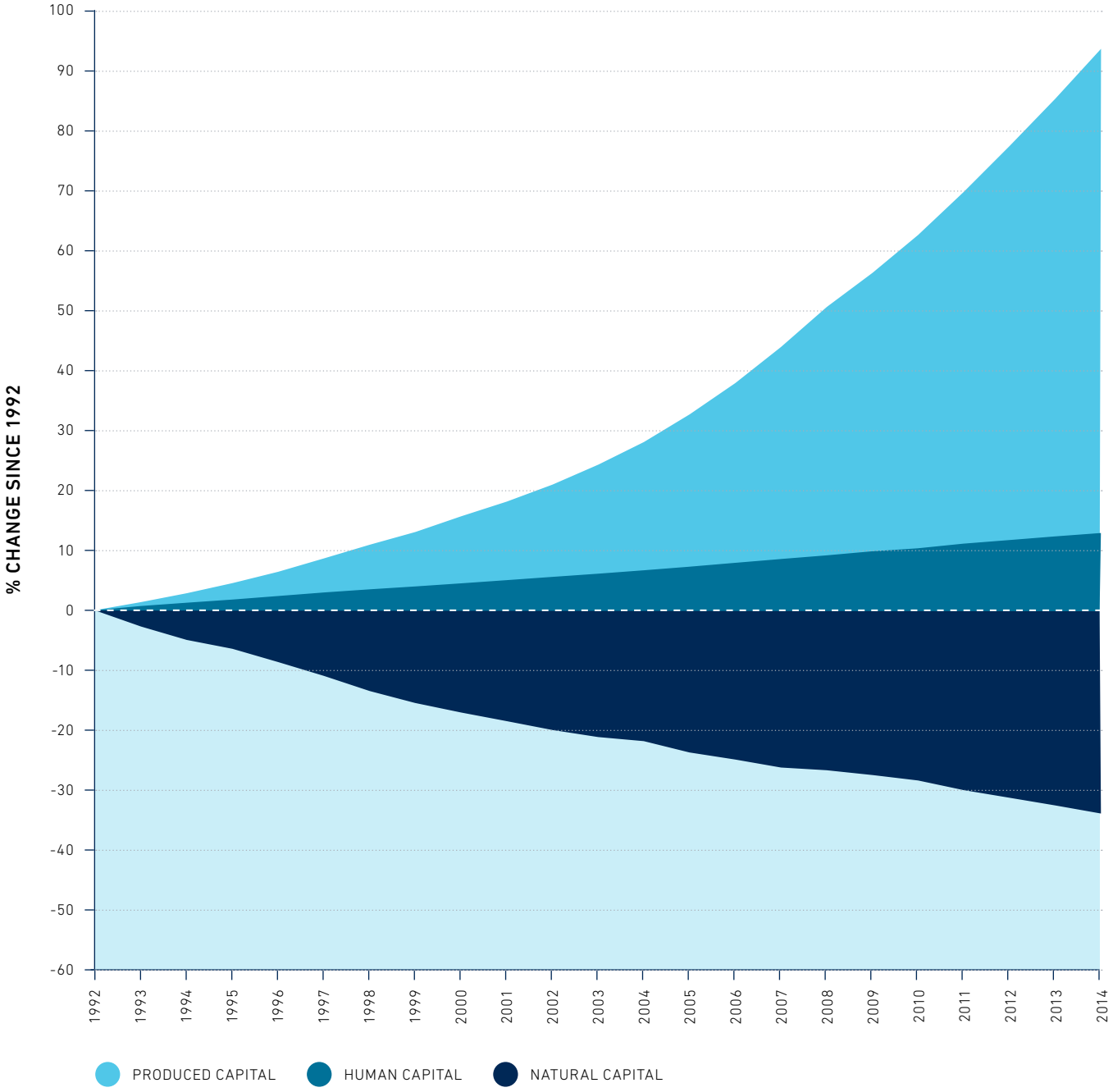
Some estimate that more than half of the world's economic output depends on natural resources (see Exhibit 4).[68] But for years, those natural resources and the services generated from them were largely seen as free. Now that climate change is accelerating the depletion of natural resources, those assumptions are being reconsidered.

While conservation is nothing new — early conservation efforts to protect forests from the timber industry can be traced back to 17th-century England — some in the financial industry are exploring ways to recognize the value of the services that nature provides and by extension place an economic value on the resources themselves. Once natural capital is priced and no longer free, investors, companies and policymakers can incorporate that information into their economic decisions and act accordingly.

The connection between a warming planet and the depletion of natural resources has been most visible in the area of deforestation. Deforestation is a major driver of biodiversity loss and climate change, and it is now widely accepted that reducing emissions and deforestation must go hand in hand.

Exhibit 4: Conversion of natural capital into produced capital

The divergence between natural capital and produced capital indicates the growing cost of economic production relying on natural capital.



Source: The University of Cambridge Institute for Sustainability Leadership, *Integrating Nature: The case for action on nature-related financial risks*, 2022 (adapted from P Dasgupta, *The Economics of Biodiversity: The Dasgupta Review*, HM Treasury, 2021.)

Forests represent vital environmental and social value, providing habitat for at least 80 percent of the world's terrestrial biodiversity and supporting livelihoods for human populations living in and near these forests.[69] As critical carbon sinks, forests also play a key role in climate change mitigation, absorbing 30 percent of carbon emissions from industry and fossil fuels.[70]

Yet between 2015 and 2020, an estimated 10 million hectares of forests were lost every year globally, primarily driven by commercial agriculture and cattle ranching and production of commodities including palm oil and soy beans.[71]

Deforestation is a key component of achieving the objectives of the Paris Climate Agreement, with the IPCC stating that deforestation and conversion of natural ecosystems to human uses contributes 11 percent of global GHG emissions.

Growing recognition that climate risk is not just about emissions was reinforced at the UN's COP26 climate summit in Glasgow in 2021. A key deal struck at the outset of COP26 was the commitment by more than 100 world leaders, including Canada, Brazil, Russia, China, Indonesia, the Democratic Republic of the Congo, the US and the UK, to end and reverse deforestation by 2030. The deal is significant, not only because reforestation helps with decarbonization, but because it puts a spotlight on the use of natural resources in commercial activity.

There are multiple implications of a growing focus on natural capital for investors, public companies and the financial services industry. First, there is likely to be greater pressure on public companies with activities linked to deforestation to find alternatives. And over time, we would expect this

Between 2015 and 2020, an estimated 10 million hectares of forests were lost every year globally.

focus to extend to natural capital usage more broadly, including soil, water, oceans and air quality.

Second, investors will be called on to actively engage with public companies on delivering credible transition plans for reducing their exposure to deforestation. For example, in a recent insights piece, State Street's asset management arm, State Street Global Advisors (SSGA), said deforestation was an increasingly important area of focus for its Asset Stewardship Program.[72] "As the world moves toward achieving net-zero emissions by midcentury, our portfolio companies exposed to deforestation and land degradation in their value chains must consider these topics when adopting long-term climate ambitions," wrote SSGA.

And here too, we expect investors to broaden their scope of engagement over time to encompass nature-related material risks more broadly.

Third, the spotlight on deforestation is encouraging growing efforts to measure and disclose nature-related risks. Last year, the Taskforce on Nature-related Financial Disclosure (TNFD) launched its initiative to create a nature-related risk management framework. The TNFD released its beta framework in March 2022. It has three components: foundational guidance, including key concepts and definitions; disclosure recommendations aligned to the TCFD; and "how to" guidance for nature-related risk and opportunity analysis. The TNFD is requesting feedback from the financial community and intends

to have a working framework in place by third quarter 2023. At that point, the TNFD hopes there will be widespread voluntary adoption of its framework.

Fourth, we would expect regulators to follow the lead of investors and the TNFD to incorporate some kind of mandated disclosure for public companies around nature-related risks. Some organizations are already leading thinking in this area. For example, the University of Cambridge Institute for Sustainability Leadership (CISL) has developed a framework for identifying nature-related financial risks, and it recently published a paper outlining the case for action on nature-related financial risks (see Exhibit 5).[73]

Lastly, we may be heading to the adoption of a broader concept of ecosystem services (ESS) that would mean a shift from an implicit valuation of ESS to an explicit one. And indeed, the UN has already embarked on this project with the development of its System of Environmental Economic Accounting.[74]

ESS has the ability to capture everything that might be regarded as important in a discussion about the planet. That would mean putting an explicit value on ESS, putting a value or recognition on the ESS consumed by corporations or others, and recognizing the risks and opportunities. This also connects with the idea that under TNFD we might see a greater degree of recognition by companies of their consumption of ESS or the value of their preservation or enhancement of it.

Valuing natural capital as well as providing disclosure around its usage is a logical extension of the integration of GHG emissions currently underway in the global financial system. As recognition of that grows, and more valuation tools around natural capital are developed, we would expect greater inclusion of natural capital considerations in disclosure regulations and mainstream economic decision-making.

Looking beyond E: A focus on human capital and S more broadly

Much of the growth in ESG to date has been driven by investor focus on the "E" element of ESG. According to a recent NYU Stern Center for Business and Human Rights article, nearly 70 percent of US and European assets invested using ESG analysis were in funds that targeted climate change and other environmental issues.[75] But as a result of the COVID-19 pandemic and the rise of social movements such as BLM, there is growing recognition that the risks and opportunities associated with the "S" element of ESG increasingly matter too.

Several studies have found a link between social considerations and long-term economic growth. The World Economic Forum estimates that without investment in gender equity, it would take more than 267 years to close the economic gender gap.[76] If as many women worked as men, the IMF estimates that GDP would increase by 5 percent in the US, 9 percent in Japan, 12 percent in the United Arab Emirates and 27 percent in India.[77]

Social factors are tied to organizations' financial performance as well. A McKinsey assessment points out that in 2019, the top-quartile companies embracing ethnic and cultural diversity outperformed those in the fourth quartile by 36 percent in terms of profitability.[78]

More recently, the COVID-19 pandemic has highlighted the critical role of "S" in value creation. For example, the pandemic made

Exhibit 5: Why assess nature-related financial risks?

Source: The University of Cambridge Institute for Sustainability Leadership, *Integrating Nature: The case for action on nature-related financial risks*, 2022

plain the inextricable link between health and economic outcomes.[79] Pandemic-related job losses also disproportionately affected women in the workforce, wiping out about $800 billion of their earnings in 2021 while lockdown measures worsened income inequality more broadly.[80] And in the US, women of color and women with disabilities experienced far higher levels of job losses than the aggregate (see Exhibit 6).

The impact of the pandemic also highlighted that the ways in which organizations respond to social factors are materially significant to their growth and survival. Studies that looked at the COVID-19-induced market crash found that companies with positive sentiments regarding human capital, supply chain and operating crisis response exhibited higher institutional investor money flows and more resilient stock returns.[81] According to the Thinking Ahead Institute and *Pensions & Investments*, the top 500 global asset managers place a premium on the sustainability nexus that links purpose, DEI and ESG principles.[82] And consumers are looking to companies to lead. A 2021 study showed that more than eight out of 10 global consumers expect CEOs to lead on societal issues.[83]

Proxy voting around human capital considerations has been increasing over time.[84] And both retail and institutional investors have been demanding action on social issues.[85]

For example, Citi agreed to undergo a third-party racial audit after a significant number of shareholders voted in support of the proposal.[86] In another example, Costco Wholesale Corporation recently faced a shareholder proposal to disclose how the company applies a sustainability commitment to its core food business to address the links between structural racism, nutrition insecurity and health disparities.[87]

The World Economic Forum estimates that without investment in gender equity, it would take more than 267 years to close the economic gender gap.

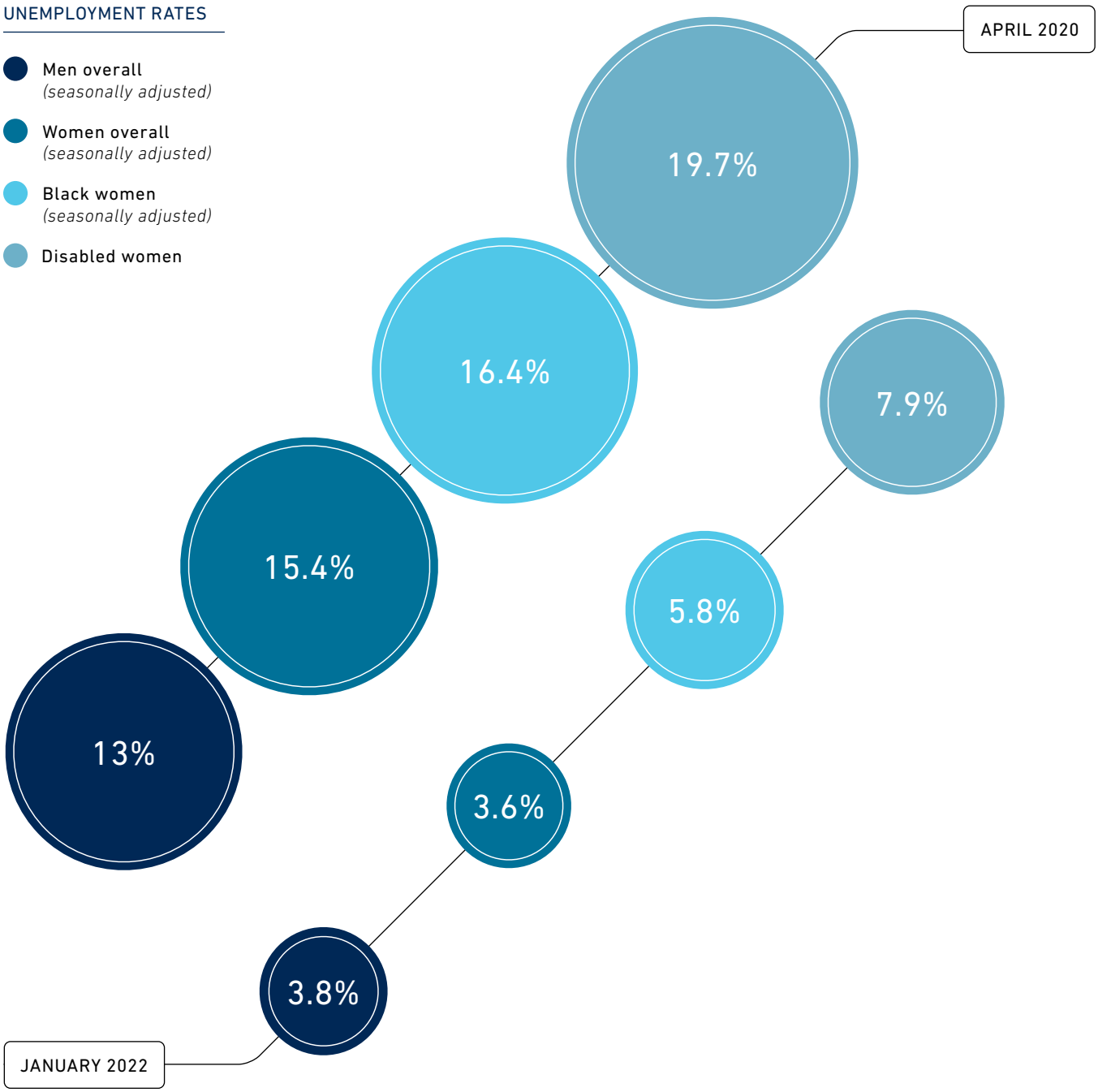
As a result, several voluntary initiatives, such as JUST Capital, Corporate Human Rights Benchmark (CHRB), Human Capital Coalition Framework and ShareAction, have created tools and indicators to help organizations assess the risks and opportunities in "S."[88]

And regulators are paying attention. The EU's Non-Financial Reporting Directive (NFRD) introduced the concept of double materiality, which stipulates that companies disclose their impacts on society and the environment and the financial risks posed to the company by social and environmental issues.[89] The EU recently released a document on social taxonomy, clarifying what constitutes social investment — a step toward defining decision-useful investments.[90]

In 2020, the SEC adopted new disclosure rules for public companies related to their workforce.[91] In Asia, the Japanese government plans to issue guidelines on human capital disclosures and metrics such as employee diversity and human resource training by the end of 2022.[92]

Exhibit 6: Unemployment in women and men, 2020 and 2022

Women experienced higher levels of unemployment as a result of the pandemic, and black women and women with disabilities are still experiencing higher levels than the aggregate.



Source: U.S. Bureau of Labor Statistics

There are a number of challenges related to incorporating "S" into economic decision-making. For starters, the scope of "S" is very broad.

A recent survey by Corbin Advisors finds human capital management and diversity and inclusion the key factors that drive the social component.[93] While these factors form the most visible part of "S" today, the scope of "S" is wider and has progressively expanded over the years. The social component also includes workplace safety, health, fair pay, training, supply chain (including outsourcing), modern slavery, digital rights, consumer safety, human rights, wellbeing across value chain, etc. With supply chains upended and persistent geopolitical tensions, companies may need to address issues such as food security, energy security, operational resilience, cybersecurity and defense. Given the widening scope, understanding what constitutes "S" in an investment decision may not be as straightforward as climate change.

Then there is the challenge of measurement. Without basic tools to measure a firm's human capital and any investment in it, how can investors judge how well a company is managing its human capital asset? What's more, social measurement typically measures an effort — say, having a policy on diversity rather than a tangible impact in the form of gender balance.[94]

Finally, "S" is contextual to geography and industry. This variability makes it challenging for companies, especially global companies, to understand which issues are most important to report and how to best measure and benchmark them. Adding to that, there are inconsistencies in the current reporting standards — such as between the EU and the US.[95]

As a result of the growing demand from investors and other financial institutions to understand and take into account social considerations, together with the current lack of basic tools for measuring a company's social footprint, we believe there will be significant opportunities in this area for further research and innovation that can lead to consensus and adoption.

In this chapter, we described the sweeping forces we believe will drive ESG in the years ahead. These include the information revolution, geopolitics, technological development, economic development, financial incentives and, of course, social norms. Against this large canvas we focused on what matters for the development of ESG over the next 12 to 18 months in order to help investors, companies and policymakers be better prepared. In the next chapter, we examine the solution space around ESG and how that, too, will develop.

Chapter 3

The Solution Space

The Solution Space

While ESG expands to touch the entire financial system, the solution space is growing and evolving quickly as well.

In Chapter Two, we outlined the long-term drivers of ESG, including data and analytics, social norms, geopolitics, technological change, economic needs and financial incentives. These factors are driving the evolution of ESG, and in some instances they act as enablers and have become part of the solution space. This is the case for data and analytics that facilitates inclusion of ESG considerations into financial and investment decision-making.

As we discussed in Chapter One, ESG is at its core an effort to measure, account for, and, ultimately, attribute financial value to an evolving set of environmental, social and governance demands that are present in the market. As a result, the emerging solution space thus far has predominantly focused on overcoming challenges around measurement, standards and frameworks.

In this chapter, we categorize the current ESG market solution space, dive deeper into a few critical areas, and explore how the solution space is evolving.

ESG market solutions can be categorized into five areas

In our categorization of the solution space, we focus on the commercial landscape for ESG solutions. We will not address other factors, such as technical innovation, government regulation, standards, policy frameworks, academic research or investor coalitions, that are also part of the expanding ESG ecosystem and have been mentioned at various points in previous chapters. While these factors are also enablers of ESG and should work hand in hand with market solutions, we will focus here on creating a market map of ESG solutions. As financial market participants increasingly recognize that ESG is a necessary response to market demand, we expect solutions to proliferate and improve.

We recognize five solution categories: investment products and services; data, analytics and research; scores, ratings and indices; regulatory reporting and compliance and integrated tech platforms; and advisory and consulting services (see Exhibit 7).

ESG investment products are growing quickly for both equity and debt instruments

Investment management firms have responded to growing investor demand by launching new sustainability-focused funds or realigning their existing offerings. The sustainable fund universe accounts for over 6,000 funds worldwide as of Q1 2022, according to Morningstar. Deloitte reported that ESG fund launches in the US grew at more than twice the rate of non-ESG funds in 2021, at 80 percent and 34 percent, respectively.[96] What's more, according to Morningstar, funds marketed as sustainable in their prospectuses attracted $68 billion of new assets in the first 11 months of 2021 compared with $51 billion in 2020.[97]

89%

of ETF investors globally are expected to add ESG exposure to their portfolios in the next year, according to Brown Brothers Harriman.

Exhibit 7: A market map of ESG solutions

Our intention in this exhibit is to be indicative, and we highlight a few examples of each category in parentheses. Vendors may fall under more than one solution category. This exhibit is not meant to be exhaustive but to provide a framework to understand the current commercial solution space. Overlaying factors, such as ESG regulations, standards, policy frameworks, academic research and investor coalitions, while part of the overall ecosystem and a great influence on the products and solutions offered, are not captured in this exhibit.

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Predicted amount of sustainable bond issuance globally in 2022, according to Climate Bonds.

In 2021, sustainability-linked ETFs represented about 4 percent of the $10 trillion global ETF market by assets.[98] During the first quarter of 2022, sustainability-focused ETFs generated about $25 billion of inflows, increasing to around 8 percent of total assets. We expect this trend to continue. About 90 percent of ETF investors globally are expected to add ESG exposure to their portfolios over the next year, according to a recent Brown Brothers Harriman survey of investors.[99]

According to estimates, green, social, sustainability and sustainability-linked bonds accounted for just over 11 percent of total global bond issuance in 2021, up from less than 7 percent in 2020.[100] And, according to Climate Bonds, sustainable bond issuance could surpass $1 trillion globally in 2022.

The number of institutional investment managers reporting at least one ESG-aligned fund in their holdings has grown almost 300 percent since 2016.[101] Investment managers offer ESG products based on a spectrum of sustainable investment strategies, including exclusionary focus, thematic, inclusionary focus, best in class and impact investing. Many investment managers are building capabilities to customize investment solutions to meet clients' ESG preferences in addition to the conventional financial objectives. At State Street Global Advisors, we have been working closely with clients to incorporate ESG considerations into their investment portfolios. We have also been partnering with index providers and sub-advisors in launching Standard & Poor's Depositary Receipt (SPDR) products. We continue to innovate to create ESG investment solutions that provide cost-efficient beta exposure, as well as those that seek alpha potential.

Interest in asset stewardship is growing too, including engagement on ESG issues

As investment managers expand their ESG offerings, there is growing emphasis on investment stewardship, both proxy voting and engagement, to meet investor demand. There is also wider recognition of the criticality of asset stewardship in fulfilling one's fiduciary duty, especially when it comes to material ESG issues such as climate change and diversity and inclusion.

The 2021 proxy season saw a record number of ESG shareholder proposals and a record level of support from shareholders, averaging 32 percent approval, according to a recent Conference Board review and outlook.

In a recent Accenture survey on investment stewardship, 92 percent of asset managers indicated that their firms were looking to transform investment stewardship approach within the next five years.[102]

The growing demand for sustainability represents opportunities for financial services firms to

92%

of asset managers in an Accenture survey indicated that their firm is looking to transform its investment stewardship approach in the next five years.

offer innovative products, augment their internal stewardship processes and customize client reporting. For example, State Street offers investors the ability to retain their voting rights for securities they use as collateral.[103]

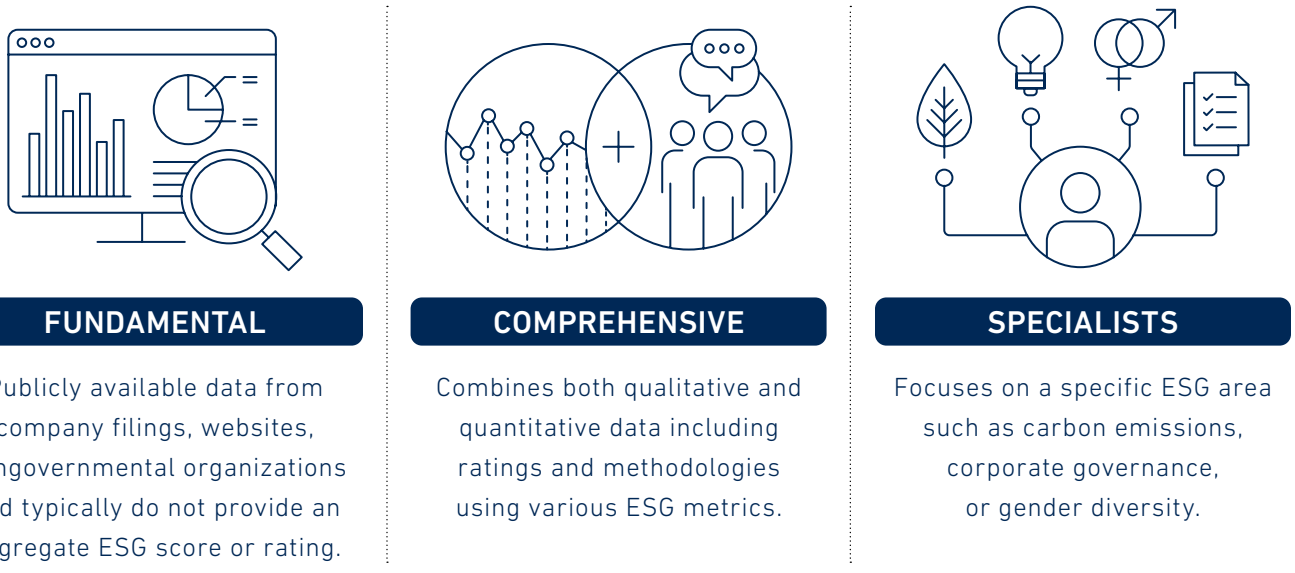
ESG data and analytics as well as ratings and indices are core solutions

ESG data can be divided into three categories: fundamental, comprehensive and specialist (see Exhibit 8). According to one estimate, the total annual spending on ESG data surpassed $1 billion in 2021 and is forecasted to grow more than 20 percent annually.[104]

Some typical ESG data solutions include: raw data feeds across fundamental, comprehensive and specialist categories, which can be integrated into workflows/internal systems; controversy alerts that track and monitor behaviors and practices of companies that could lead to reputational risks and impact long-term performance; and screening tools that assess the exposure of companies, jurisdictions, sectors and securities to ESG risks.

Deploying analytics that turn relevant ESG data into insights is critical for the ESG integration process. According to an Aite-Novarica survey of buy-side firms in 2021, ESG analytics use cases, particularly carbon and climate-related analytics, are expected to gain critical status in the next 12 months. Most of the ESG data providers also offer analytics solutions and some offer aggregate ESG data with advanced analytics and provide real-time ESG intelligence.

Exhibit 8: Main ESG data categories



The scope of ESG data and analytics solutions is becoming wider. Today, there are targeted ESG data solutions available to specific institutional segments (e.g., Refinitiv's ESG solutions for Hedge Funds), asset classes (e.g., MSCI's ESG fixed-income solutions) and specific regulatory needs, etc. Also, climate-related data, such as exposure to physical/transitional risks and carbon risks (such as S&P Trucost), are becoming significant in the ESG integration process. New risk measures such as Climate Value at Risk (Climate VaR)[105] and implied temperature rise (ITR) are being offered by vendors.[106] The data solutions are evolving with new categories such as MSCI's Net-Zero solutions and Sustainalytics' ESG supply chain solutions.

Today, no ESG solution can provide a single source of truth for ESG. Firms tend to use ESG data from multiple vendors, and, hence, a strong technology platform that integrates external market data sources into the internal ecosystem is an essential enabler.[107] For example, State Street offers ESG services that provide access to multiple data vendors, allowing investors to assess ESG factors at individual security and portfolio levels for pre- and post-trade activities.

Additionally, given the data challenges, data operations is becoming more important to adequately map data sets to port holdings, normalize data sets, aggregate accurately, handle shorts and derivatives, and combine data sets for bespoke frameworks. Firms such as Rimes and State Street are developing solutions to provide operational efficiencies when it comes to managing ESG data.

The increasing demand for ESG has led to the proliferation of ratings providers. EY identified about 100 providers in the rating services in October 2021, which had doubled from the year before.[108] ESG ratings can refer to the broad spectrum of rating products in sustainable finance and include ESG scorings and ESG rankings.[109] Typically, ESG ratings, scores or rankings are used to assess the extent of exposure of an entity, financial instrument or an issuer to ESG risks and opportunities. The ESG ratings across vendors, however, vary considerably. Recent research from MIT Sloan School of Management has dubbed the problem "aggregate confusion."[110] The comparison of inputs, coverage and outcomes among 12 ESG rating products highlights the differences and data confusion.[111] This also presents an opportunity, however, for ratings agencies to emerge with the most credible methodology that could be widely adopted.

A number of ESG data and rating providers, such as MSCI, S&P and Bloomberg, are also index providers. Benchmarking ESG performance against appropriate indices is becoming important. The Index Industry Association's (IIA) 2021 survey showed 80 percent of asset managers agree that indices help them direct investments quickly to companies and sectors with strong ESG performance.[112]

Large investment data providers (such as Bloomberg and Morningstar), rating agencies (such as MSCI, S&P and Moody's) and market infrastructure providers, such as exchanges (London Stock Exchange), have been enhancing their ESG capability through a series of acquisitions. For example, Morningstar acquired Sustainalytics to expand access to ESG research, data and analytics for investors worldwide.[113] FactSet acquired Truvalue Labs in 2020.[114] London Stock Exchange acquired Refinitiv, and Deutsche Börse acquired Institutional Shareholder Services' group of companies.[115]

Services around regulatory compliance and broader advisory/consulting services will grow

As ESG considerations spread across the financial system, and especially as regulators introduce new policy guidelines, more companies, financial institutions and investors are seeking guidance.

Bain & Co's survey of M&A executives found that, increasingly, ESG issues are being considered in the dealmaking process today. A recent BCG survey found that more and more companies are considering ESG factors in their organizational transformation initiatives.[116] And data forms the foundational element in driving ESG focus across investing, M&A and transformation.

The demand for compliance services is growing in line with the introduction of new ESG regulations. According to a recent forecast from IDC, worldwide ESG risk and reporting software revenues are expected to double over the 2020–2025 forecast period, growing to more than $720 million in 2025.[117]

Firms have been grappling with incorporating ESG into their investment decision process, but now with regulatory compliance and risk management, firms are forced to think about ESG comprehensively from front to back — not only from a data perspective but also from an ESG governance and strategy perspective. So having a complete ESG solution from front to back is becoming more and more critical. Within the institutional market segment, firms such as State Street provide a suite of ESG solutions by acting as an aggregator of ESG data with provisions for ESG analytics and for voluntary and regulatory reporting.

Growing regulatory focus on preventing greenwashing that differs by region means that risk management in different jurisdictions will become a more critical component in the investment lifecycle.

13

Number of sustainability consultancy acquisitions in 2021.

(Source: Verdantix, reported in *Eco-Business*)

What's more, growing regulatory focus on preventing greenwashing that differs by region means that risk management in different jurisdictions will become a more critical component in the investment lifecycle. And as a result, we expect ESG risk management solutions will become more important.

Growing M&A activity is changing the competitive dynamics in the ESG advisory space. Traditional consulting firms are extending their capabilities through acquisitions and partnerships to capture the ESG opportunity. Accenture recently announced the acquisition of boutique consulting firm Greenfish.[118] In 2021, it was reported that there were 13 sustainability consultancy acquisitions, up from just four in 2020.[119]

The ESG solution landscape is also evolving with the entrance of new fintech/specialized vendors and incumbents catering to the expanding scope of ESG parameters, and increasing regulatory or

The next frontier in ESG data involves the use of alternative data to complement self-reported data and provide real-time assessment.

compliance-based requirements. At the same time, a surge in M&A activity indicates that ESG solutions are increasingly consolidating under bigger brands.

Looking ahead to how the solution space is evolving

Advances in data, analytics and technology are rapidly changing the commercial ESG solutions space. In terms of data, there are a number of emerging trends that we cover in this section including alternative data sources, emerging technology to analyze unstructured data, open-source data models and closing ESG data gaps for alternative investments.

The next frontier in ESG data involves the use of alternative data to complement self-reported data and provide real-time assessment. Some of the current ESG data vendors, for instance, MSCI and Sustainalytics, already use alternative data, but technological developments and increasing digital footprints offer greater opportunities in this area. For example, J.P. Morgan Asset Management analyzes employee reviews on Glassdoor to gain a better understanding of issues that could have a negative impact on a company's performance, such as poor staff morale or a negative work culture. They also examine LinkedIn to uncover other potential red flags, such as high staff turnover.[120] Companies such as Truvalue Labs look at non-company disclosed data sets from media, NGOs, trade journals and social media to mine ESG data about companies providing a more "outside-in" perspective. Additionally, investors can target specific issues and sources, for example, complaints data reported to NGOs for potential human rights violations or environmental damage by analyzing health and safety issues that impact a particular sector, such as mining.

Emerging technology will also add more rigor to ESG assessment, creating a new window of opportunity to analyze unstructured data and enhance transparency. Increasing the digital footprint of organizations and advancements in artificial intelligence have made it possible to assess large volumes of data to understand seemingly intangible factors, such as culture. Sparkline Capital uses natural language processing and machine learning to extract keywords related to corporate culture from digital sources, such as news, web, social media, and even audio and video transcripts.[121] Ninety One's Multi-Asset team has developed a framework for appraising corporate cultures, with the aim of helping portfolio managers and analysts identify investments with underappreciated long-term potential.[122] Sentiment analysis/opinion mining can be leveraged to analyze conversations, such as what a CEO says during quarterly earnings calls, trends emerging from the social media footprint of a private entity, the employee perception about a company or a brand perception of a consumer.[123] In other examples, blockchain could be used to drive supply chain transparency, potentially improving authentication, tracing and visibility over outsourced suppliers and vendors and enforcing better labor practices. Satellite sensing could be used to detect modern-day slavery, while University College London has developed models for estimating energy usage using satellite data.

Emerging open-source models can also meet ESG data challenges. Efforts such as ESG Book supported by HSBC, Deutsche Bank and Swiss Re aims to enhance the ESG data market with free data.[124] A report from the McKinsey Global Institute found that economies that embrace data-sharing for finance could see GDP gains of 1 to 5 percent by 2030, with benefits flowing to consumers and financial institutions.[125]

Finally, private markets and alternative investments have been growing quickly in recent years and that trend is expected to continue. When it comes to alternative asset classes, ESG data is very thin and we expect more providers to fill that gap in the next 12 to 18 months.

From an analytics and platform perspective there is a growing need for stronger ESG analytics capabilities that can predict and react to the evolving ESG data and market landscape. For example:

- Future analytics capabilities should account for the increase in data available from both disclosures (beyond operational to supply chain reporting) and alternate sources to identify the key trends influencing financial materiality.
- There is increasing demand for transparency from stakeholders (regulators, activists, NGOs and investors) to justify investment outcomes for creating sustainable impact.
- Since ESG risks are evolving, it is important for investors to marry the emerging corporate trends with the evolving ESG considerations to identify factors that will influence the long-term sustainable performance. This requires an integrated capability that can deliver real-time signals and provide the necessary hindsight, insight and foresight in investment decision-making.

We expect platform solutions to scale up as ESG programs evolve and as ESG criteria become more pervasive across the investment value chain. ESG is now being factored into areas such as securities lending and collateral management. For example, in 2021, State Street established the ESG-aware securities lending commingled cash collateral reinvestment strategy.[126]

ESG is an exciting and still-evolving territory with significant opportunities for the financial industry. In this report, we set out a framework to understand what ESG is in practice and where it is headed. As ESG is increasingly recognized as a necessary response to market demand, we expect solutions will proliferate and improve, creating a virtuous circle that further drives growth in ESG.

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