CENTER FOR INNOVATION (C4i)

Pathways to Better ESG Data Verification and Reliability

Insights and Recommendations

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Introduction

Reliable and accurate ESG data are critical for effective capital allocation, investment decisions, and stewardship. Until recently, the absence of federal leadership has had widespread ramifications for the advancement of capital markets disclosure toward the full integration of environmental, social, and governance (ESG) data and disclosure.

Increasingly, investors, lenders, and other market participants require and seek environmental, social, and governance (ESG) data and disclosure to understand their investment risk and effective value creation and preservation.

However, while many corporations report ESG information, their data tend to be produced sporadically and vary widely in reliability and consistency. This creates risks to investor protection, and inefficiencies and costs for investors and the markets. Unreliable, inconsistent, and sporadic ESG data quality ESG data inhibits assessing and pricing the full array of risks and opportunities associated with investments and making appropriate capital allocation and stewardship decisions.

To build consensus and chart pathways to better ESG data verification and reliability, the Center for Innovation at UC Hastings (C4i) convened a high-level group of 60 diverse stakeholders. The goal of the January 2022 discussion was to forge a path toward better integration of high-quality environmental data and assurance practices for assessing social goals and climate risk into corporate reporting. The conversation was led by Samantha Ross, Affiliated Scholar with UC Hastings and a leader in audit oversight. The participants evaluated the opportunities and challenges in creating frameworks to enhance the rigor and reliability of ESG data, including through new applications of independent, third-party assurance. For many in attendance, the meeting provided a rare opportunity to discuss the challenges facing ESG data standardization across market functions and roles.

This report summarizes 10 major insights from the convening and makes five recommendations for policymakers and market players alike to strengthen ESG data verification and reliability.

The report is structured as follows:

- **Part I summarizes the presentations and remarks from the panel experts that opened the event.**
- **Part II describes the insights gained from discussion among the participants, including the panelists, and highlights where they found consensus.**
- **Part III outlines the recommendations from the discussion leader for appropriate actions policymakers and stakeholders could take in response to the insights and discussion, to make progress on improving ESG data verification and reliability.**

Part I: Panel Discussion

A panel of five experts with diverse experience as investors, analysts, and auditors opened the discussion. Because the event was held under Chatham House Rules, where all participants engaged personally and without attribution, it allowed for a frank and robust conversation about the problems facing ESG data verification and reliability.

The panel conversation centered on the following questions:

- How do investors and market intermediaries use ESG data? Can individual, voluntary corporate reports satisfy market needs? What data should be systematized or harmonized to make them more decision-useful?
- Are there examples, or lessons, from corporate financial reporting that suggest promising approaches to improving the infrastructure for more rigorous and reliable ESG data?
- What mechanisms are available to validate ESG data? Would third-party assurance improve the quality and reliability of ESG data? If so, are there market frictions contributing to a lack of third-party assurance over ESG reporting and other information?

- What impediments are there to market solutions that would make investor-grade assurance an available norm? How can market participants overcome those impediments?

The experts highlighted how critical ESG reporting and analysis are becoming to their firms. For example, a senior executive of one of the world's largest asset managers described her institution's thorough approach to conducting rigorous analysis to support advantageous portfolio management through informed investment and stewardship decision-making. Similarly, the CEO of a small boutique asset management firm cited research on the divergence of accounting and market value, stating that "80 percent of market value is now tied to non-financial factors." His firm integrates ESG analysis as a risk mitigation tool to identify investment value drivers that are missing from formal financial reports.

Indicating some of the challenges firms face, the global head of ESG research at one of the world's largest market data providers, covering more than 10,000 issuers of equities and bonds relating to more than 250,000 fixed income securities, not surprisingly emphasized that "scale matters." Just as investors use financial data today, they now also require consistent ESG data across markets to achieve efficient and cost-effective analysis. Given the poor state of ESG data today, analysts at this firm must develop and maintain numerous models to normalize inconsistent data and estimate proxies for gaps in data.

Many participants echoed this leader's concerns about how costly it is to gather necessary information for investment and stewardship decisions (or establish proxies). Investors spend too much in direct financial outlays for this data and too much time seeking robust, reliable data, thereby missing opportunities to optimize investment and stewardship decisions based on robust, reliable data.

> *Investors are primarily concerned with the financial relevance of ESG data and focus acutely on comparing performances among peers in any given industry.*

Two major investment approaches shape investor objectives for gaining improved data. First, some investors want to use ESG data to align their investments with their individual preferences or a specific environmental or social outcome. These investors use ESG data to exclude or select investments with particular characteristics. Second, some investors use ESG data as an additional source of information to better measure the financial risks and opportunities of investments. The ESG research firm head said the latter type of investor drives the market growth for ESG data. She noted that these investors are primarily concerned with the financial relevance of the ESG data and focus acutely on comparing performances among peers in any given industry.

Because the ESG data that this leader's clients seek are about company performance, corporate disclosure serves as an obvious data source. Still, due to their limited nature, disclosures are a shrinking part of the complete set of ESG data that investors use. In the absence of sufficient company disclosures, investors and analysts source data from the media. More recently, however, they rely on alternative data sources and "model data," which are gaining significant traction to fill the growing demand. These sources measure different aspects of ESG matters, and each has its strengths and weaknesses. One common thread is that corporate disclosure is fundamental to building and promoting the reliability of a more comprehensive set of ESG data for effective capital allocation and investment decision-making.

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The head of research at a smaller data analytics technology firm highlighted the role of technology in analyzing ESG data. Asset management analysis is changing with a much greater emphasis on leveraging technology, including artificial intelligence research, to improve the depth and breadth of decision-useful information, gain insights about risks, and find opportunities to drive value. In his view, a new disclosure system for ESG data is critical to advance market efficiency and optimize capital allocation and portfolio construction, in equities now and in fixed income in the future.

An auditor with experience in both financial statement and sustainability disclosure assurance identified two ways the reliability and comparability of ESG information could be enhanced and rigor improved. The first way is standard setting. She acknowledged the ongoing efforts of private-sector standard setters to create convergence in this area and the regulatory focus on ESG data standards. The second is identifying methodologies to improve the accuracy of data at the company level, including policy elections related to measurement and presentation. For example, the Greenhouse Gas (GHG) Protocol is the predominant standard for measuring greenhouse gas emissions. But the numerical calculation is not enough; it is also important to provide sufficient information to allow a reader to understand how the number was derived.

Companies regularly produce a management discussion and analysis for financial statements to provide context to their quantitative disclosure. Footnotes in financial statements also describe critical accounting policy elections. The panelist suggested that disclosures of GHG emissions would be improved if they were accompanied similarly by contextual disclosure about the policy elections inherent in the company's measurement processes and the reasons for fluctuations in the metrics year-over year. Examples include whether the company's measurement and presentation were based on operational or financial control and whether and how the company used standardized emissions factors. Suppose an auditor or investor does not have information about how the quantitative disclosure was calculated. There is no way for them to analyze period-to-period trends in the information or normalize it across companies or sectors.

Disclosure of the standards used, together with the policy elections and methodologies the company used in applying those standards, must be in place to support assurance of that information. The role of auditors is to assess whether or not those methodologies are appropriate and whether the data and the disclosures are consistent with the methodologies the company claimed to use. Thus, auditors must understand the methodologies and sources of data the company uses; they examine the details of the methodology, the disclosure itself, and the data and process the company used to arrive at the disclosure.

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She noted that assurance does not provide a value judgment: auditors do not assess or conclude whether or not a company's action is "good" or "green." Readers of the company's statements must assess those value judgments themselves. Rather, auditors assess the company's presentation of information, the quality of the policy elections, and the fairness of the results of its measurement under the stated measurement standards and policies.

The discussion also highlighted the difference between limited assurance and reasonable assurance over ESG disclosure. The auditor suggested the easiest way to think about limited versus reasonable assurance is that limited assurance is based on analytical procedures and inquiries of management to identify anything that might indicate that the information might be materially misstated. Limited assurance does not involve the auditors designing or implementing procedures to satisfy themselves that the disclosure is fairly presented and free of material misstatement. Limited assurance also does not result in the auditor issuing an opinion on the accuracy or fairness of the disclosure, but rather a statement that nothing came to the auditor's attention that the information is materially misstated. Reasonable assurance *does* result in such an opinion, and the procedures involved in reaching such an opinion are similar to the year-end financial statement audit. In reasonable assurance, the auditor evaluates the risk of a misstatement and designs the audit to address that risk, including testing procedures.

The auditor also noted that the SEC requires companies to subject interim (i.e., quarterly) financial statements to review by their auditors at the limited assurance level. Nevertheless, one significant difference is that in the review of interim financial information, the auditor brings to bear its thorough knowledge gained in the annual audit, which may give the auditor a stronger basis to detect material misstatements without detailed testing. In contrast, when an auditor is only ever engaged to provide limited assurance on an annual basis, as is often the case with

ESG data, the limited assurance procedures may be less likely to be sufficient to detect material misstatements without detailed tests.

Part II: Insights from Group Discussion Among Participants

After the panel discussion, participants discussed the panelists' presentations, introducing their perspectives and building consensus. The participants represented a full range of ESG data stakeholders, including investors, asset owners, asset managers, ESG and financial data analysts, professional auditors, law professors, accounting scholars, economists, and policy experts. They elucidated the following key insights:

Insight 1 – Disclosing ESG measurement policies will improve the quality and utility of ESG disclosures.

Participants observed that many best (or required) practices that are taken for granted in the corporate financial reporting context do not exist in the ESG reporting context today and emphasized the importance of leveraging best and required practices in financial reporting to improve ESG reporting.

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For example, even before the Sarbanes-Oxley Act of 2002, it was a best practice for companies to disclose their critical accounting policies, generally in the first footnote to the financial statements. That practice became mandatory after 2002. Participants agreed that this explanatory footnote is critical to understanding how the company applies accounting principles, whether under Generally Accepted Accounting Principles or International Financial Reporting Standards. Disclosure of changes in those policies is also important to compare company results from one period to the next. Participants widely agreed that company disclosure of approaches to ESG measurement must be included in the accounting infrastructure, especially for GHG emissions.

Insight 2 – Investors use industry-specific approaches to ESG materiality.

A representative from a large asset manager explained that the first tenet of the institution's ESG research philosophy is that material issues are strategic business issues that impact performance. She reported that her institution has a team to identify and analyze ESG issues that are critical to portfolio managers' decision-making. She said her team has found that material issues are different across companies and sectors. Her team adopts an industry-specific approach to materiality.

For example, for social metrics, when her team is evaluating a bank, they look for a net promoter score, which helps them understand how customer relationships will impact the bank's ability to grow. They also look at employee engagement surveys. Employee engagement predicts the long-term success of a service business as does the ability to attract and retain top talent. These are two data points specific to the banking industry that form part of her team's analysis. The data points also highlight the mosaic of considerations in portfolio managers' decision-making. In contrast, when her team looks at an energy company or other commodity business, they evaluate different social metrics. For example, they may review injury rates to assess whether the company operates in a way that protects its employees, avoids litigation or operational interruption, maintains appropriate insurance costs, and protects its social license to operate.

Participants emphasized the need for a framework to ensure that these metrics are developed using a suitable and rigorous process and methodologies to meet investor needs.

Insight 3 – As with financial information, some ESG issues are universally important across the market, such as climate risk.

Participants from asset managers also offered that, as with financial information, some ESG information is relevant across sectors, particularly on climate risk. Climate information helps investors understand the quality or repeatability of the company's earnings. They also show how sensitive the company's earnings stream is to the physical risks of climate change. One participant described her firm's work with a climate research center to identify location data to assess risks across supply chains. She said the lack of disclosure from companies about their locations and resiliency planning hinders her firm's ability to bring physical climate risk analysis to their investment decision-making.

Insight 4 – While there is great traction on the development of voluntary frameworks, reporting remains insufficient.

Participants reported great traction in the development of voluntary frameworks such as the Sustainability Accounting Standards Board and the Financial Stability Board's Taskforce on Climate-related Financial Disclosure (TCFD). Many participants have been promoting and encouraging adoption and playing a part in driving these voluntary standards forward. However, because companies perceive disclosure to be voluntary, investors still do not receive sufficiently consistent or sufficiently rigorous information required for making efficient capital allocation and investment decisions. Despite the advances in frameworks, participants feel left in a "pretty similar place" as before. They report widespread inefficiencies and a need to use their own estimates and inquiries to fill in the disclosure gaps.

Insight 5 – There are hidden costs to the lack of high-quality disclosure practices.

Many participants raised the problem of the high costs they experience to gather useful ESG data from companies. For example, one participant described how her firm frequently spends time following up with companies to clarify aspects of ambiguous data. Investors face many challenges to gaining ESG information for investor decision-making. These challenges include data gaps and lack of uniformity across reporting standards, both of which inhibit comparison and analysis.

Uneven information enhances the risk that investors will draw the wrong conclusions because there is so much guesswork to fill in gaps.

Moreover, while investors endeavor to use their good judgment in ESG analysis, the uneven information enhances the risk that they will draw the wrong conclusions because there is so much guesswork to fill in gaps.In addition, these gathering and estimation efforts take precious time away from other activities investors could be doing to help clients. For example, a large asset manager participant reported that GHG emissions data is essential for assessing whether an oil producer's operations are efficient. Their institution's view is that those producers that can manage emissions better should have a competitive advantage. In one instance, when an oil producer did begin reporting emissions data, there was no footnote to aid the investor in understanding how the emissions data were determined.

Yet a data provider picked up the disclosure and reported it as an operational number, even though it was unclear in the reporting whether that classification was accurate. The participant said their only avenue to verify the classification of the disclosure was to engage with the company directly. They learned that the disclosure did not include Scope 2 emissions and there were carve outs in the number disclosed. The participant's team was prompted to engage directly with the company because its disclosure looked better than a competitor's, but the team could not figure out why. The participant said that, without having gone through all those steps — and expense — they could have drawn the wrong conclusion.

A participant from a small asset manager said they, too, had found they needed to follow up with companies just to understand the company's ESG data, but they have fewer resources to do so. The lack of reporting clarity imposes a significant burden on them. He noted that companies faced costs associated with the inefficiency of relying on a discretionary disclosure system, too, due to time responding to investor inquiries across a range of topics.

Insight 6 – Investors struggle to reconcile corporate sustainability reports with financial reports.

Participants expressed challenges relating to reconciling corporate sustainability reports (CSRs) with financial reports from the same company. While it was widely agreed that CSRs provide valuable information about a company's business model, participants would expect to find such information in 10-K reports but do not. For example, investors look to the CSRs to understand gaps in disclosure about intangible assets in the 10-K, such as community goodwill and investments in access to talent. Investors also find useful information about leadership and governance in CSRs.

One participant reported that approximately 80 percent of S&P 500 companies provide CSRs. He said this is a big change from ten years ago when it was probably less than 15 percent. So now investors have access to more information, in some cases, than even the 10-K provides. For example, this participant has found extensive GHG data in some companies' CSRs as well as information on their plans to reduce emissions. Still, there is no disclosure in the 10-K about the impact of the company's emissions profile or its reduction efforts on the company's financial position or results. He added that he also looks for assurance over data in CSRs, including GHG emissions data. He is concerned that that assurance is often not at the same level or quality as the assurance provided on the financial statements. When he sees in a CSR that a company believes certain ESG information is material and that it is assured, he expects to see a through-line between that information and the 10-K explained. Other participants also expressed concern about the absence of a through-line from CSRs to 10-Ks.

Several participants expressed concern that this discrepancy belies a disconnect between what companies say that they are doing around corporate sustainability and where the actual money, investment, and resources are going. One participant suggested questions that arise, including whether the company is doing what it says it's doing and whether real resources back its claims.

A participating auditor explained that some companies' CSRs are based on an "inside-out view" of materiality, whereby the drafters of the company's CSR are mechanically responding to stakeholders' views and requests about the company's impact on the environment and society. In such situations, the company's CSR takes on the feel of a communications exercise as opposed to a deep discussion of strategy and business risk. She described her work with clients to bring those two worlds together and figure out where they intersect so that investors get reliable information regarding the ongoing initiatives that companies have. She questioned whether, when companies identify 20 or 30 different material topics and issues from what she called the inside-out view, it is possible to put the right amount of resources into each initiative to make a measurable difference. Instead, she suggested that there be deeper focus on the impact of external issues on a company's financial performance.

Insight 7 – For some material risks, disclosure about inputs is more useful to investors and easier and cheaper for companies to produce.

Some investors expressed a preference for input data. For example, it is difficult to compare many companies' disclosures about the physical risk of climate change when some report risk from flooding while others report risk from wildfires. Instead, investors would like to obtain information about asset locations and where companies generate revenue. One investor believes investors could use such location data to do their own risk modeling and develop an understanding of the overall climate hazards within their portfolios. Mandatory location disclosure by companies could be a solution.

Insight 8 – Investors and analysts need fulsome climate disclosure to judge the quality of companies' financial results and positions.

Today many companies selectively choose which aspects of GHG emissions to disclose, which makes it difficult for investors and analysts to assess the impact of a company's complete emissions profile on its business model or to compare that impact to another company's. Among the 10,000 companies one institution follows, a participant reported that only 18 percent disclose some form of Scope 3 GHG emissions, and half of those companies disclose only emissions from business travel. With these carve outs, such disclosures are nearly unusable, even though the participant considers GHG emissions to be material to evaluate the quality of a company's earnings in the face of the energy transition. Thus, more standardized, mandatory reporting on emissions data may be necessary.

Another request raised by participants was for mandatory climate scenario analysis. Even though such analysis is a critical component of TCFD disclosure, she said most companies choose not to provide it. Investors need such disclosure to judge management's strategy in the face of the energy transition. In particular, one participant said she would like to see companies provide net-zero scenarios to judge how resilient the company's business model is to the energy transition. She would also like assurance over the inputs and processes used in scenario analysis.

Insight 9 – Companies are not satisfying investor and market needs for disclosure about systemic risks that have a pervasive effect on their portfolios.

Given the breadth of capital markets today and the depth of analysis that investors and analysts use to reach efficient and effective capital allocation decisions, investors need to be able to compare data from tens of thousands of companies. This is a difficult feat: even with the best human analysts, one investors' firm deploys 100 to 180 human analysts around the clock to capture ESG data, which is still not sufficient. He said he could put another 300 people on this task. His firm's analysis would be more efficient if he could supplement the human analysts with machine learning to scan every CSR report and somewhat structure that data, but the problem is that the data quality is just not sufficient. A new data infrastructure is needed. He also raised concerns about "national regulatory fiefdoms" emerging from inconsistent disclosure frameworks. Instead, he would like to see a technology platform that everyone can use, including auditors, data analytics companies, and asset managers.

Participants also discussed how the materiality of certain ESG information has changed over the years, especially climate data. One participant said that in the 1950s, when Harry Markowitz wrote about modern portfolio theory, eight percent of the public equity market in the U.S. was held by institutional investors, and individual retail investors held ninety-two percent. That is not how people invest today. Today, the reasonable investor is in a diversified portfolio of multiple companies, such as through a mutual fund based on an index of companies. For such investors, the market overall (beta) drives 75 to 94 percent of return. Yet the manager who holds the pen in determining what goes in or stays out of a disclosure may be more focused on matters that management perceives it can do something about (alpha). He said that until we bridge the problem of management discretion over what is material, we will continue to get bogged down in disagreements over materiality.

Insight 10 – Reasonable assurance requires companies to support their claims with evidence and is possible with time.

Many participants expressed a preference for investor-grade assurance over ESG data. The auditor participants said that reasonable assurance is possible with time, but companies must support their claims with evidence. They said companies need to prepare their measurement policies and processes for auditors to opine on ESG data at the reasonable assurance level. For example, it took several years for one company to get to the point where they had the mechanisms in place to develop the underlying support needed to obtain reasonable assurance over their ESG metrics. Reasonable assurance requires the process custodians inside a company to maintain data consistently. Examples of companies that have prioritized obtaining reasonable assurance over ESG disclosures are Guess, Vornado, and UPS.

The auditor participants reported that there are signs that corporate finance departments are stepping up to incorporate ESG disclosure controls into financial management tools. One participant said that some finance directors and corporate controllers inside companies recognize they need to understand the company's ESG disclosures and the processes used to develop them. Historically, ESG data had often been the purview of an internal sustainability group, the marketing or communication department, or even the facilities management department. Those groups have not historically developed rigorous reporting standards and measurement policies for capital market purposes. The involvement of corporate finance departments has been helpful to establish the processes and controls necessary for investor-grade disclosure and to prepare for third-party assurance.

Participants noted that while some companies appeared to be waiting until the SEC required assurance, other companies have been preparing to stay ahead. One approach companies have taken is to establish a sustainability controllership role with the skillset to straddle the worlds of financial reporting, accounting, and policy development on the one hand and the subject matter involved in the company's ESG disclosures on the other. Nevertheless, other companies are still compiling ESG data via email and static Excel charts outside the company's financial management systems.

While there appears to be a significant gap between investor expectations for reliable data and companies' responses, one auditor participant reported observing in 2021 a sea change in board interest in ESG data, especially from audit committees and the CFO. Participants expected that getting corporate finance departments involved in ESG data would significantly improve the rigor and reliability of the data, even if it is a bumpy path.

Part III – Recommendations

During the convening, both panelists and participants discussed a variety of ways to act on or address the insights and challenges discussed. **Many of the participants called for regulation to standardize disclosure and establish mechanisms to improve reliability, including through third-party assurance.**

Since the discussion, the U.S. Securities and Exchange Commission (SEC) has proposed new disclosure requirements for public companies relating to an important dimension of ESG – climate risk. **The SEC's proposal appears to address many concerns expressed in the discussion as well as reflect many of the insights.**

In addition, based on the discussion, the discussion leader, Samantha Ross, suggests the following opportunities and actions policymakers and stakeholders could take to make progress on improving ESG data verification and reliability.

1. **Investors should take opportunities through engagement to encourage companies and their audit committees to leverage existing financial management processes to produce high-quality ESG data.** Based on input from some participants, it appears that some companies are already doing so, such as by establishing a sustainability controller. Audit committees play an important role in overseeing their companies' financial management processes and communicating financial results and positions to the capital markets and capital markets regulators. Regardless of whether substantive oversight of ESG initiatives is charged to another board committee (e.g., a sustainability committee), the audit committee still plays a critical role in communicating to investors. The audit committee should be deeply engaged in overseeing the company's processes to develop capital markets disclosure on any topic, including ESG measures, as well as ensuring that the full breadth of the company's climate risks, opportunities, initiatives and commitments are clearly reflected in the financial statements.

   Investors should also encourage audit committees to approach assurance over ESG data as an important tool to foster trust. It is in companies' long-term interest to earn investor confidence through reliable communication on matters that are important to investors. Investor confidence maximizes a board's opportunities for capital formation at the lowest cost. Boards also need the trust and support of investors – even passive, indexed investors – to execute on long-term strategic plans. Obtaining high quality assurance only when mandatory risks missing these opportunities to build trust and foster understanding.

2. **The SEC should require, and investors should continue to demand, a clear through line between ESG disclosures and financial statements.** A pervasive theme in the discussion was that CSRs and other voluntary reports can sometimes appear to describe a different company from the one represented in the company's financial statements. This is not only confusing for investors and analysts attempting to use ESG data in decision-making, but it introduces costly friction and undermines confidence in the quality of both ESG reporting and financial reporting.

3. **The SEC should require companies to include in their climate disclosure a clear description of their measurement policies, akin to the footnote on critical accounting policies in the financial statements.** Such a footnote provides the basis for the disclosure, which facilitates comparisons from period to period as well as among companies. It is both a common and required practice in financial statements to ensure that readers understand how the reporting criteria (e.g., GAAP) are implemented in the company's financial statements. Such disclosure also facilitates the audit, as the auditor will evaluate whether the company's measurements and disclosures are consistent with the company's stated accounting policies.

4. **The SEC should require reasonable assurance, not limited assurance, over its proposed mandatory GHG emissions disclosures.** Although the SEC's proposal likens limited assurance over GHG emissions to limited assurance over interim financial information, this analogy is a false equivalence. While the level of effort to perform a limited review of ESG data may be similar to a limited review of financial information, the level of confidence that investors can take from the review is not the same. This is because a review of interim financial information is anchored to information that has been audited at one point or another. As such, it is in the nature of an update as opposed to a standalone engagement. Also, the presence of the auditor at interim periods has a salutary effect of deterring aggressive reporting and detecting potential issues before they rise to the level of a material misstatement. This is in part because management and the auditor know the disclosure will ultimately be audited at year end. All of these effects are grounded in the annual audit, which results in an *opinion* on the fairness of management's disclosures. So-called limited assurance does not in fact provide any assurance that management's disclosures are fairly presented in conformity with the stated reporting criteria.

5. **Investors should work together to articulate preferences as to choices that companies and auditors make as to the scope, level, and quality of assurance obtained on ESG data.** At the end of the day, as the word conveys, assurance is meant to provide comfort to users of corporate disclosures, i.e., the suppliers of capital. Investors do not have a seat at the table in negotiating the scope, level, and quality of assurance. But through engagement, investors can and should signal preferences. For securities markets to operate efficiently, regulators should in turn ensure the necessary mechanisms are in place to facilitate such market signals, so that investor needs for confidence in corporate reporting are met.

> The hallmark of assurance is the auditor's inside access to probe, test, and challenge managements' processes, assumptions, data, and assertions. Audits can thus get beneath the surface of management claims in ways that even SEC file reviews cannot, providing market confidence in reporting. Moreover, the discipline of the audit promotes improvements in management's processes, assumptions, and data sources. When the suppliers of capital are confident in the scope and quality of information available in the market, the costs of capital are lower than they would be in opaque markets that suffer from inordinate information asymmetries. Assurance thus plays a critical role in achieving these benefits for all market participants.

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About the Center for Innovation

More than a think tank, The Center for Innovation (C4i) at UC Hastings is an action tank invested in identifying implementable solutions to today's problems. Research initiatives and classroom components are integral to C4i as it identifies and advances the knowledge, tools, and skills necessary to foster innovation in the practice and development of law and policy. C4i's AI, Data, and Capital Markets Initiative shapes the next generation of legal and policy frameworks to protect the public interest. Professor Robin Feldman leads C4i.

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