Impact-Weighted Accounts Project
Harvard Business School
Soldiers Field Boston MA, 02163

June 15, 2022

Ms. Vanessa A. Countryman, Secretary
United States Securities & Exchange Commission ("SEC")
100 F Street, NE
Washington, DC 20549
Via email to: rule-comments@sec.gov

Re: File No. S7-10-22: The Enhancement and Standardization of Climate-Related Disclosures for Investors (the "Proposed Regulation")

Dear Ms Countryman:

The Impact-Weighted Accounts Project (IWA) at Harvard Business School writes today to support the Proposed Regulation and to provide a library of quantitative research that demonstrates the importance of its climate-related disclosures to investors. We commend the Commission's forward-looking perspective in developing the Proposed Regulation, building upon existing disclosure standards that have been tested in the market such as those of the Task Force for Climate-related Disclosures (TCFD) and the Greenhouse Gas Protocol (GHG). This Proposed Regulation will advance the strong legacy of investor protections, including the 1933 and 1934 Acts and Sarbanes-Oxley Act of 2002, that have helped make the United States markets a leading place to invest capital. It also serves as a critical update amid emerging comparable regulation abroad as well as exigent financial risks from climate change that are already being felt in the American west and coastal cities.

Background on Impact-Weighted Accounts' Research

IWA is a fundamental, research-driven effort focused on enhancing market transparency around corporate efforts. It is led by Professors George Serafeim and Ethan Rouen, who collectively have over two decades worth of research experience on sustainability topics. The goal of our work with IWA is to enable both investors and corporate managers to measure, analyze, and value in comparable terms the positive and negative impacts of companies. Ideally, we would seek to have such double materiality information be disclosed by public and large private companies. Acknowledging that this mission goes beyond the purpose of the Proposed Regulation, we write to share insights from our research efforts including those pertaining to financial materiality and to reinforce the suggestions that we made in our 2021 comment letter responding to the SEC's Request for Public Input on Climate Change Disclosure (reproduced in Appendix I).

Based on our collective research and market experience, we believe that the Proposed Regulations are both within the authority of the SEC and central to its mission to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation.

Summary of our Relevant Findings

I. **Investors want climate information for financial and nonfinancial reasons**: Rapidly expanding ESG investment mandates across both institutional and retail clients underscore the importance of these issues to clients. Further, data supports significant value capture and risk mitigation from incorporating climate analysis into investor portfolios.

II. **The Proposed Regulation is consistent with current financial materiality considerations:** Research indicates that climate is currently financially material to numerous industries and an emerging risk for most others. The proposed regulation supports both investors and corporates in prudently managing these risks by requiring a periodic materiality analysis for scope 3 and financial statement disclosures and subsequent measurement and management of these risks.

III. **Current climate change data is inefficient, incomplete, and inadequate:** The current fragmented landscape of climate disclosure standards imposes costs on both investors and corporates. Further, the voluntary nature of these disclosures leads to substantially incomplete data sets and the current market solution to these, corporate ESG ratings, are inadequate because they lack the transparency and comparability necessary for investors.

IV. **Current information is insufficiently reliable:** Requiring the information to be filed rather than furnished means that it will be subject to more intensive corporate/internal-audit and external audit reviews, so that it will become reliable. We also hold that the specificity of the Proposed Regulation allows for investor evaluation of the quality of the information and its reliability, adding an additional level of oversight.

V. **The Proposed Regulation builds on existing frameworks thereby promoting efficiency and comparability:** We commend the SEC for building upon time and market tested standards. The TCFD and GHG Protocols are frequently used for corporations, as well as international regulators, and are useful to investors. The SEC's proposal and the ISSB draft climate disclosure standard are well aligned. We support the SEC's efforts to align its proposal with the ISSB's draft standard because of the importance to issuers and investors of aligned global disclosure expectations and the strength of the ISSB's draft and their standards creation process.

I. Investors want climate information for financial and nonfinancial reasons

Shifts in the understanding of risk, opportunity, and values by investors, have generated substantial increases in the amount of assets under some form of ESG screen or considered as impact investments;[1] such shifts among investors also demonstrate the importance of increasing transparency, along with reducing the costs of obtaining such information, to ensure that these investment mandates are properly applied. Although the lack of data and robust understanding of what ESG means impedes our ability to size the market, in the past decade, the field of ESG/Sustainable investing ("ESG") in the United States has increased in popularity and public consciousness from approximately $4tn of assets under management ("AUM") to $17.1tn at the start of 2020, the date of the most recent US SIF bi-annual report, representing a third of U.S. AUM.[2] In recent years, growth has been exponential, growing 42% between 2018 and 2020 according to the report.[3] Critically, climate change/carbon emissions is the top ESG criteria for U.S. ESG assets, comprising over $4tn.[4] Globally, the ESG market seems to be even bigger. A 2019 market overview by the IFC places the global market in public strategies at over $34tn.[5] While the SEC's mandate is focused on U.S. capital markets, the dual mandate to ensure efficient capital allocation and capital formation requires attention to be paid to the rising amount of international capital that requires some level of environmental reporting – *i.e.,* U.S. companies and fund managers will increasingly be disadvantaged in raising capital globally without providing standardized climate disclosures.

A number of macro trends are driving this ballooning of ESG/Impact/Sustainable assets. In the United States, a massive wealth transition is taking place from the baby boomer generation, historically the wealthiest generation in history, to their children, largely members of the millennial generation, who are expected to inherit $68tn.[6] Research shows that millennials have an overwhelming penchant for sustainable/socially responsible/impact investing, with 99% showing interest in the topic and 75% making investment changes in response to social justice movements during the pandemic.[7] This is driving a significant amount of strategy development as asset managers respond to these changing preferences. An additional significant trend is the growing recognition that climate change and other environmental and social developments represent material financial risks to providers of financial capital, illustrated by numerous studies.[8] Furthermore, these environmental and social factors are dynamic and increasing in

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[1] ESG throughout refers to environmental, social and governance factors. The Global Sustainable Investment Alliance estimated the market share of such assets to be over $30 trillion in the 2018 Global Sustainable Investment Review, accessed May 21, 2021 at http://www.gsi-alliance.org/wp-content/uploads/2019/06/GSIR_Review2018F.pdf

[2] Woll, Liza, et al. "Report on US Sustainable and Impact Investing Trends," The Forum for Sustainable and Responsible Investment," 2020.

[3] *Ibid.*

[4] *Ibid.*

[5] Iarossi, Giuseppe, Neil Gregory, Paul Brest, et al. "Creating Impact: The Promise of Impact Investing," International Finance Corporation, 2019.

[6] Kelly, Jack. "Millennials will become richest generation in American History as Baby Boomers Transfer Over Their Wealth," Forbes, October 26, 2019.

[7] Sustainable Investing. "Sustainable Signals: Individual Investors and the Covid-19 Pandemic," Morgan Stanley Institute for Sustainable Investing, October 2021.

[8] Bolton, Patrick and Kacperczyk, Marcin T., Do Investors Care about Carbon Risk? (October 30, 2020). Columbia Business School Research Paper Forthcoming, Journal of Financial Economics (JFE), Forthcoming, European Corporate Governance Institute – Finance Working Paper 711/2020, Available at SSRN: https://ssrn.com/abstract=3398441 or http://dx.doi.org/10.2139/ssrn.3398441

importance to the competitiveness of organizations and as a result their valuations, as regulations are evolving, technologies are developing and customer/employee preferences are changing.[9]

ESG incorporation has an outsized appeal among institutional investors which account for 70% of U.S. ESG AUM relative to their 53% market share of total U.S. AUM.[10] This is likely a function of exclusionary screening at large public sector retirement funds (*e.g.*, CalPERS and CalSTRS) and plan fiduciaries and insurance companies. Such investors have time horizons measured in decades, and thus are pragmatically assessing climate materiality risk. Additionally, much of the wealth expected to pass to millennials in the next decade is still held by the baby boomers who are notably more skeptical of ESG investing, as most new paradigms are seen with skepticism. These factors indicate that there is nascent demand from retail/high net worth investors in the space.

While some of the trends above may be values based, purely financial considerations also warrant environmental or carbon-related disclosures. Our research shows that environmental intensity[11] is already correlated with lower equity valuations by certain measurements; specifically, greater environmental intensity is negatively correlated with both Tobin's Q[12] and the price-to-book value of equity ratios. This is after controlling for other determinants of valuation ratios, such as return on assets, leverage, firm size, capital expenditures, R&D expenditures, and dividends divided by sales. All models include industry, country, and year fixed effects. The estimates suggest that a firm with twice the environmental intensity compared to its leading peers has 2.4% lower Tobin's Q and 5.2% lower price to book value of equity. A study by one of us found that climate related data can be useful in assessing the future performance of organizations in different industries.[13]

We have numerous examples of ESG metrics being used by both investors and corporates in their decision-making process. Two uses of impact-weighted accounts have emerged within the investor community: investment analysis and post-investment management and evaluation. In both areas of application, ESG factor analysis helps to identify current and emerging risk areas which are additional to the traditional financial analysis but which are significant to investor investment protection. Blackrock has been

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[9] Freiberg, David, Jean Rogers, and George Serafeim. "How ESG Issues Become Financially Material to Corporations and Their Investors." Harvard Business School Working Paper, No. 20-056, November 2019. (Revised November 2020.);
Freiberg, David and Park, DG and Serafeim, George and Zochowski, Rob, Corporate Environmental Impact: Measurement, Data and Information (February 10, 2021).;
Harvard Business School Accounting & Management Unit Working Paper No. 20-098. "Annual Sustainable Investment Report 2020: Sustainable investing delivered through our connected intelligence," Lazard Asset Management, March 31, 2021.

[10] Woll, Liza, et al. "Report on US Sustainable and Impact Investing Trends," The Forum for Sustainable and Responsible Investment," 2020.; Heredia, Lubasha, Simon Bartletta, et al. "Global Asset Management 2021: The $100 Trillion Machine." Boston Consulting Group, July 2021.

[11] Environmental Intensity is calculated as total environmental impact divided by revenues.

[12] Tobin's Q is a measure of the market value over the replacement value of assets.

[13] Cheema-Fox, Alex, Bridget LaPerla, George Serafeim, David Turkington, and Hui (Stacie) Wang. "Decarbonizing Everything." Financial Analysts Journal 77, no. 3 (2021): 93–108.

very vocal on how the Blackrock Investment Stewardship Team considers ESG issues in its annual engagement and proxy strategy.[14] Additionally, many corporates, such as Acciona, an infrastructure and renewable energy company, are using ESG factor analysis in capital allocation decisions to mitigate the risk of stranded assets or product development which might be at odds with changing social norms and customer expectations.[15]

II. The Proposed Regulation is consistent with Financial Materiality considerations

The Proposed Regulation requires disclosures of climate-related information that is important to reasonable investors, and this determination is sufficient for the SEC to act. It is our understanding that information does not have to be material to a company for the SEC to require its disclosure, as various existing regulations illustrate. Neither does any required disclosure need to be financially material to all companies or all industries for the SEC to impose requirements. Nonetheless, we have researched the *financial* materiality of various ESG factors over the past two decades, including within our work at IWA, and provide here some of our relevant findings.

Climate information is currently financially material in many industries with the degree of financial materiality increasing over the time (Period of study was 2010-2019).[16] Specifically, for fourteen diverse industries, including building products, chemicals, and energy, environmental intensity is associated with lower market valuation.[17] Nonetheless, climate information is proper to be considered in risk management for all industries. For those industries in which climate is not currently measurably financially material to investors, the interests of consumers and employees remain relevant as the saliency of climate issues has advanced. Bolton and Kacperczyk document that investors take a nuanced approach to emissions; divestment is generally concentrated in industries with the highest CO2 emissions while in all other industries, investors look to firm-specific attributes and price in a carbon risk premium, consistent with such stocks being viewed as "sin" stocks.[18] Additionally, a study by George Serafeim indicated significant price reactivity to breaking positive or negative news that was considered financially material

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[14] https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter?cid=ppc:blk:ll:na:ol:goog:na:v2:bhv:tl&gclid=CjwKCAjw7vuUBhBUEiwAEdu2pIBRcnTKfoAtNPF3gZMyPNjMp_WSX-S3WGNrKfjaBBn8PKdQYbPhSRoC_-gQAvD_BwE&gclsrc=aw.ds

[15] Panella, Katie and T. Robert Zochowski, "Uses and Applications of Impact-Weighted Accounts." Harvard Business School, 2021.

[16] Freiberg, David, DG Park, George Serafeim, and T. Robert Zochowski. "Corporate Environmental Impact: Measurement, Data and Information." (pdf) Harvard Business School Working Paper, No. 20-098, March 2020. (Revised February 2021.)

[17] See Figures 4a and 4b. Freiberg, David, DG Park, George Serafeim, and T. Robert Zochowski. "Corporate Environmental Impact: Measurement, Data and Information." (pdf) Harvard Business School Working Paper, No. 20-098, March 2020. (Revised February 2021.)

[18] Bolton, Patrick and Kacperczyk, Marcin T., Do Investors Care about Carbon Risk? (October 30, 2020). Columbia Business School Research Paper Forthcoming, Journal of Financial Economics (JFE), Forthcoming, European Corporate Governance Institute – Finance Working Paper 711/2020, Available at SSRN: https://ssrn.com/abstract=3398441 or http://dx.doi.org/10.2139/ssrn.3398441

for a given industry and thus likely to affect a company's fundamentals.[19] A report by McKinsey in 2020 estimates that value at stake from climate induced hazards could conservatively rise to 4% of global GDP per year, *i.e.,* approximately $3.76 trillion based on 2021 IMF estimates.[20] Already in the U.S., costs from climate-related natural disasters are increasing each year. Investors across sectors need clear and comparable information to assess these increasing risks.

Indeed, risk as well as return matters to investors, even those that still believe that the only purpose of a corporation is to maximize value to its shareholders; such investors need information about climate-related risks to evaluate their investments. The saying that one 'manages what one measures' is instructive; within the busy pace of business, measurement is not a guarantee of effective management, but issues which go entirely unmeasured will certainly not rise to the managements' agenda until it is too late. Recent years have seen innumerable examples of 'viral' moments around corporate behavior and stakeholder treatment that have resulted in substantial shifts in management attention, business disruption, and loss of shareholder value. Volkswagen was fined over $32bn collectively stemming from emissions tests for its diesel vehicles falsified in order to sell them as 'clean'. BP was fined $20bn by the U.S. Justice Department following the Deepwater Horizon Accident which was found to be an outcome of years of decisions favoring speed over safety. Historically, these were often grouped into the bucket of 'black swan' risks; however, with more advanced understanding of non-financial stakeholder values, these risks become more anticipatable and manageable, so long as relevant information is collected and disclosed.

A recent IWAI study[21] helps to explain how such black swan risks or viral moments can quickly rise to the level of financial materiality. It documents the dynamic nature of issues considered to be financially material and suggests a pathway by which issues can rise, often quickly, to the level of financial materiality. Critically, the authors discuss how important proper organizational and industry response to the elevated demands of stakeholders is to preserving shareholder value. Proper risk management dictates that corporations should be anticipating and managing issues material to stakeholders; a business can rarely operate at odds with stakeholders for long without these issues impacting the business itself and thereby its investors. Therefore, the limited costs incurred by firms in the process of periodically reassessing risks and providing required disclosures are worthwhile from an investor perspective if they help management to identify emerging or borderline risks.

Lastly, we will add that the Proposed Amendments to Rules and Disclosure Forms to promote consistent, comparable, and reliable information for investors

[19] Serafeim, George and Yoon, Aaron, Which Corporate ESG News does the Market React to? (April 22, 2021). Forthcoming, Financial Analysts Journal, Harvard Business School Accounting & Management Unit Working Paper No. 21-115

[20] McKinsey & Company. "Climate Change and P&C insurance: The threat and opportunity." November 19, 2020. Accessed June 14, 2022 at https://tinyurl.com/2326uwsz.

[21] Freiberg, David, Jean Rogers, and George Serafeim. "How ESG Issues Become Financially Material to Corporations and Their Investors." Harvard Business School Working Paper, No. 20-056, November 2019. (Revised November 2020.)

concerning funds' and advisers' incorporation of environmental, social, and governance (ESG) factors, announced May 25, 2022, is built upon the recognition that proper disclosure and truth in marketing are material to protecting investor interests and eliminating "greenwashing". This sentiment parallels the Sustainable Finance Disclosure Regulation (SFDR) being implemented in the European Union. Critically, the data disclosures required for investment managers to track and report whether the funds are being managed according to the investment mandate are dependent upon proper disclosure from companies, whether or not the issue is directly material to any given company or industry, in order to provide comparability between financial products being offered. This again parallels implementation of regulation in the EU with the Corporate Sustainability Reporting Directive (CSRD). In this light, the SEC's approach to required disclosures is extremely sensible.

III. Current climate change data is inefficient, incomplete, and inadequate

Inefficient: Currently, corporations and investors must navigate a complex landscape of numerous standards and metrics, established by disparate providers including, but not limited to, the Value Reporting Foundation, Global Reporting Institute, Carbon Disclosure Standards Board, and the Task Force for Carbon-related Disclosures (TCFD). Such multiplicity of definitions and frameworks leads to numerous market inefficiencies for both investors and corporates. Without a standard and guidance on defining and disclosing these risks set by the rightful United States markets regulator charged with investor protection, costs are imposed on both investors seeking information and corporates providing it. Thus, the SEC's Proposed Regulation will reduce inefficiencies within the marketplace by standardizing requirements, providing clear guidance and promoting comparability; this is a function that the SEC – rather than the U.S. environmental or energy regulator – is designed to provide.

Indeed, the current plethora of voluntary frameworks, despite their movement toward harmonization, are also inefficient for corporations trying to be transparent. They require substantial time investment to understand the differences in the standards and cause corporates to report against multiple standards to meet investor demands. An established standard from the SEC will streamline much of this effort.

While investors are indeed navigating the current incomplete climate disclosures, the current state is highly fragmented, requires expensive data purchases from numerous providers, substantially disadvantaging smaller investors, as well as necessitating significant assumptions for analysis. A 2019 corporate report found substantial dispersion in the frameworks used by corporates, with no framework garnering over 50% market share.[22] This is not immaterial to investors; nuanced definitional and scoping differences between these frameworks impede transparency and comparability in interpreting information that issuers have chosen to disclose. Numerous private market efforts, including TCFD, have attempted to provide alignment/concordance tables between these disclosures. However, as the U.S. Government regulator overseeing orderly market functioning, we believe that the SEC should be the arbiter of these definitions and scoping,

[22] Mahoney, Richard and Diane Gargiulo. "The State of Climate Risk Disclosure: A Survey of US Companies." DFINsolutions, Whitepaper, 2019.

not the private market with its competing factions and potentially conflicting incentives. It is admirable that the proposed disclosures appear to build on the significant work of the TCFD and the CDSB but notably take the responsibility for implementing and updating these on the SEC's own mantle.

Given IWA's deep experience gathering and analyzing environmental and social data, we would be pleased to share with the SEC cost information on doing this type of work, should a legal challenge to the Proposed Regulation materialize in which such information would be useful.

Incomplete: Resulting from the plethora of voluntary frameworks discussed above, investors are left with cherry-picked corporate social responsibility statements that do not have the same standard of completeness as financial filings, leading to numerous "missing" datapoints. Out of ~10,000 companies in Bloomberg and Thomson Reuters across years 2010-2018, only 331 firms disclosed all six data points (GHG emissions, NOx, SOx, VOC, Water Withdrawn, Water Returned) that our team needed to calculate environmental impact. [23] Furthermore, because data in these voluntary reports is not currently required to be reported in an XBRL tagged form, meaningful inconsistencies in the same datapoint often occur between different providers. Even among the companies reporting scope 1, 2 and 3 emissions data, the calculations are implemented often in diverse ways that make the data hard to compare across firms or over time.

Inadequate: A current leading source of climate and other ESG information comes from ratings providers which seek to digest the complexity of translating myriad metrics, issues, and management guidance into comparable ratings in the same way that credit ratings seek to translate financial risk from several drivers into a risk scale for investors. Despite the outsized role they play in capital markets, these ESG ratings face challenges to their validity including most significantly their lack of transparency and comparability.

- Transparency: Several authors have documented that transparency around the methodologies from these ratings providers are not standardized nor fully disclosed, which makes verification challenging. We find this to be consistent with our research. [24]
- Comparability: Ratings from the same provider or between providers do not provide comparable means for assessing environmental impact. Upon obtaining data from three leadings ratings providers, MSCI, RobecoSAM, and Sustainalytics, we find that the relation between the natural logarithm of environmental intensity[25]

[23] David Freiberg, DG Park, George Serafeim and T. Robert Zochowski, "Corporate Environmental Impact: Measurement, Data and Information," Harvard Business School, Working Paper 20-098 (2020 and revised 2021).

[24] Berg, Florian and Kölbel, Julian and Rigobon, Roberto, Aggregate Confusion: The Divergence of ESG Ratings (August 15, 2019). Forthcoming Review of Finance; David Freiberg, DG Park, George Serafeim and T. Robert Zochowski, "Corporate Environmental Impact: Measurement, Data and Information," Harvard Business School, Working Paper 20-098 (2020 and revised 2021); Dimson, E., Marsh, P., & Staunton, M. (2020). Divergent ESG ratings. The Journal of Portfolio Management: the journal for investment professionals, 47 (1), 75-87.

[25] Environmental intensity is defined as our calculated monetary environmental impact divided by revenue.

and the ratings is negative, consistent with the idea that firms that have greater adverse environmental intensity receive lower ratings.[26] However, the correlations between scores and environmental intensity are low to moderate, ranging from -0.13 to -0.26, indicating that the ratings are not providing information on the magnitude of the environmental impact. Further, our within-industry analysis suggests that the ratings are not differentiating across firms within an industry on the impact dimension. This finding is corroborated by several recent studies that document low inter-ratings correlations in addition to numerous biases including geographic and large-cap bias[27], thus increasing costs for investors who often need to select and aggregate among the 100+ organizations providing ratings.[28] This has substantial implications for the investor protection.

IV. Current information is insufficiently reliable

Current information is insufficiently reliable because it is predominantly reviewed insufficiently, furnished, non-assured and lacking in specificity, all deficits that the Proposed Regualtion aspires to correct. In addition to the incompleteness discussed above, our anecdotal conversations with corporations and their agents point to a best-efforts basis to supply the disclosures. While some firms do go to extra effort to subject their reporting to third party review, this is commonly discretionary – unless required for financing as in the case of a "green" loan or bond. Requiring the information to be filed rather than furnished means that it will be subject to more intensive corporate/internal-audit and external audit reviews, so that it will become reliable. Requiring assurance of certain GHG emissions disclosures is also a needed step for the information to be reliable. Further, given the increasing impact of GHG emissions on firms' performance,as well as the substantial investor interest in low/carbon-neutral portfolios, there is ample moral hazard with GHG emission disclosures. We, therefore, support requiring C-suite attestation for these metrics specifically, in line with best practices implemented in Sarbanes-Oxley to manage moral hazard risks in accounting.

We also hold that the specificity of the Proposed Regulation, *e.g.,* requiring descriptions of methodologies, inputs and assumptions and similar bases for information, all allow for investor evaluation of the quality of the information and its reliability, adding an additional level of oversight. This is in line with a "show-your work" standard being applied in Europe under the SFDR technical standards.

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[26] David Freiberg, DG Park, George Serafeim and T. Robert Zochowski, "Corporate Environmental Impact: Measurement, Data and Information," Harvard Business School, Working Paper 20-098 (2020 and revised 2021)

[27] LaBella, Michael, Lily Sullivan, Josh Russell, Dmitry Novikov. "The Devil is in the Details: The Divergence in ESG Data and Implications for Responsible Investing." QS Investors, a Legg Mason Affiliate, Whitepaper, September 2019. Accessed May 21, 2021 at <https://www.leggmason.com/content/dam/legg-mason/documents/en/insights-and-education/whitepaper/lm-qs-the-devil-is-in-the-details-0919.pdf>

[28] Hawley, Jim. "ESG Ratings and Rankings: All over the Map. What does it mean?" TruValue Labs, 2017. Accessed May 21, 2021 at <https://truvaluelabs.com/wp-content/uploads/2017/12/ESG-Ratings-and-Rankings-All-Over-the-Map.pdf>

V. The Proposed Regulation builds on existing frameworks thereby promoting efficiency and comparability

We commend the SEC for building upon time and market tested standards of TCFD and the GHG Protocols. We appreciate the integration of nearly all of the recommendations of the TCFD into the Proposed Regulation, as the TCFD recommendations cover many of the essential elements of climate risk disclosure and are broadly supported and used by companies, investors and securities regulators worldwide. The TCFD approach has become an international best practice and little can be gained by "reinventing the wheel." To the extent that U.S. regulations can work in harmony with the ISSB, further efficiencies will be gained. We also support the SEC's inclusion of a GHG emissions reporting requirement in the Proposed Regulation, as this information is critical to understanding the quality of a company's earnings in the face of climate change and the energy transition.

The SEC's proposal and the ISSB draft climate disclosure standard are well aligned: investors are the primary users, both draw heavily from the TCFD recommendations, both emphasize the importance of consistency between climate reporting and financial statements, and both have similar GHG emissions disclosure requirements based on the GHG Protocol. We support the SEC's efforts to align its proposal with the ISSB's draft standard because of the importance to issuers and investors of aligned global disclosure expectations and the strength of the ISSB's draft and their standards creation process. We also support allowing use of the ISSB climate disclosure standard as an alternative reporting provision if it is substantially equivalent to the SEC's final rule and its use is limited to foreign private issuers.

Specific support for notes to financial statements

We support the SEC's effort to require that climate risks be reflected in corporate financial statements. As noted by the SEC, existing accounting standards apply to climate risks. However, recent research on corporate climate disclosure[29] demonstrates that more explicit SEC requirements and guidance are needed to ensure adequate disclosure. We therefore welcome the creation of a specific location – though we would ideally like a comprehensive statement of changes for capitals – where required disclosures on the financial impacts of climate risk can be placed. This will also reduce the burden on investors as they try to compare companies. In particular, we welcome the requirement for disclosure of how severe weather events and other natural conditions and transition activities affect estimates and assumptions reflected in the financial statements.

As previously stated, we do not think that the SEC is significantly expanding its regulatory mandate with the Proposed Regulation, but rather providing critically needed guidance and clarity to support firms in disclosing existing risks. Therefore, we agree with the SEC's finding that financial statement disclosure of certain climate change impacts is required under existing accounting standards.

[29] See Ceres, Lifting the Veil: Investor Expectations for Paris-aligned Financial Reporting at Oil and Gas Companies, June 17, 2021; Carbon Tracker Initiative, Flying blind: The glaring absence of climate risks in financial reporting, September 16, 2021.

Cost effectiveness

We believe that the costs of the Proposed Regulation are far outweighed by the benefits. Having discussed this above, we want to offer two final pieces of context, highlighting two sources of costs. First, direct costs are incurred to measure and disclose climate-related information. Measurements, such as Scope 3 emissions, are challenging to estimate, but this is getting easier each year. In our own research, we have used developments in data and digital to create machine learning models that could estimate in a cost effective way 15 different types of Scope 3 estimates for the vast number of firms that lack the capabilities and resources to calculate such estimates.[30] While we do not have a precise view on the 1% disclosure threshold, we recognize that the more stringent the threshold, the higher the cost is to companies. We encourage the SEC to continue to study this and perhaps apply a progressive approach so as not to overburden small and medium enterprises. Second, potential litigation regarding disclosures can also result in costs. Some disclosures, particularly Scope 3 emissions estimates, will be subject to measurement error because of their complexity; the Proposed Regulation appropriately recognizes this difficulty with a safe harbor provision. Nonetheless, we recommend that such safe harbor provisions be re-evaluated periodically and guidance issued in light of new developments in technology, reporting, and methodology.

Conclusion

The Proposed Regulation, in our view, is entirely consistent with the mandate of the SEC. Further, the cost and time required for corporates to determine (for certain provisions) what is material or not is consistent with the inherently dynamic nature of materiality and constitutes prudent fiduciary management of investor's assets as emerging issues are identified. An SEC standardized approach to disclosure will advance *efficiency* for both investors analyzing newly comparable information and corporations disclosing to a national framework instead of myriad voluntary approaches. Such comparable information will also support *capital formation* towards companies that are managing climate change related risks and opportunities. And, as climate change can result in dramatic changes is asset prices, the Proposed Regulation will contribute towards more *orderly markets* in which risk factors are better understood and priced, thereby better *protecting investors*.

Please do not hesitate to contact T. Robert Zochowski, Program Director, at Harvard Business School with any questions about this letter or IWA's research and experience. We also look forward to the SEC's promulgation of a Human Capital Disclosure Regulation. Thank you for your time and consideration.

Sir Ronald Cohen

Advisory Council Chair Impact-Weighted Accounts,
Chair Global Steering Group for Impact Investments

[30] Serafeim, George and Gladys Velez Caicedo, "Machine Learning Models for Prediction of Scope 3 Carbon Emissions," Harvard Business School Working Paper, June 2022.

George Serafeim

Faculty Co-Chair Impact-Weighted Accounts Project,
Charles M. Williams Professor of Business Administration

Ethan Rouen

Faculty Co-Chair Impact-Weighted Accounts Project,
Assistant Professor of Business Administration

T. Robert Zochowski

Program Director, Harvard Business School Impact
Investing and Sustainability Special Projects

Kim Leslie Shafer

IWA Practitioner Advisory Council Member

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Renee Jones, Director of the Division of Corporate Finance

Appendix I

2021 Comment Letter

Division of Corporation Finance
United States Securities & Exchange Commission
100 F Street, NE Washington, DC 20549
Re: Comments on Review of Climate-Related Disclosure

To whom it may concern:

We commend the continued efforts of the Securities and Exchange Commission to review and update the mandated climate-related disclosures to ensure that investors in companies domiciled in the United States provide the very best transparency on the increasingly material issues of climate risk and exposure. We write to you with specific reference to questions 2, 5, 11, 14, and 15. While we believe that the issues referenced in all of the questions on which you have requested comment are very important, we believe that our research and experience working with both investors and corporates provides us a unique perspective to furnish feedback on these particular questions.

The mission of the Impact-Weighted Accounts Initiative (IWAI) at Harvard Business School is to drive the creation of financial accounts that reflect a company's financial, social, and environmental performance. Our ambition is to create accounting statements that transparently capture external impacts in a way that drives investor and managerial decision-making. Recent years have offered previews of the increasing challenges resulting from humanity exceeding the planetary boundaries, with stronger and more frequent storms and wildfires, as well as the frustrations of the populace with unfair, discriminatory treatment, as well as increasing intra-economy wealth inequality. Shifts in values by investors, demonstrated by the increasing amount of assets under some form of ESG screen or considered impact investments,[31] demonstrate the importance of increasing transparency, along with reducing the costs of obtaining such information, to ensure that these investment mandates are properly applied. Additionally, even investors that still believe that the only purpose of a corporation is to maximize value to its shareholders seek greater required disclosure from corporations. The saying that one 'manages what one measures' is instructive; within the busy pace of business, measurement is not a guarantee of effective management, but issues which go entirely unmeasured will certainly not rise to the managements' agenda until it is too late. Recent years have also seen innumerable examples of 'viral' moments around corporate behavior and stakeholder treatment that have resulted in substantial shifts in management attention, business disruption, and loss of shareholder value.

[31] ESG throughout refers to environmental, social and governance factors. The Global Sustainable Investment Alliance estimated the market share of such assets to be over $30 trillion in the 2018 Global Sustainable Investment Review, accessed May 21, 2021 at http://www.gsi-alliance.org/wp-content/uploads/2019/06/GSIR_Review2018F.pdf

Co-led by Professors George Serafeim and Ethan Rouen, experts in the fields of ESG and Impact Materiality, IWAI has published 15 papers on environmental, employment, and product impact since its inception. Our research has taken the perspective of an investor trying to use publicly available data to understand the impacts that a corporation is having on stakeholders. Critical to this committee's consideration is our publication of monetized environmental impact for over 2,000 publicly listed companies between years 2010 and 2019. We will expand upon our relevant findings from this research in our responses to the questions below.

Question 2: What information related to climate risks can be quantified and measured? How are markets currently using quantified information? Are there specific metrics on which all registrants should report (such as, for example, scopes 1, 2, and 3 greenhouse gas emissions, and greenhouse gas reduction goals)? What quantified and measured information or metrics should be disclosed because it may be material to an investment or voting decision? Should disclosures be tiered or scaled based on the size and/or type of registrant)? If so, how? Should disclosures be phased in over time? If so, how? How are markets evaluating and pricing externalities of contributions to climate change? Do climate change related impacts affect the cost of capital, and if so, how and in what ways? How have registrants or investors analyzed risks and costs associated with climate change? What are registrants doing internally to evaluate or project climate scenarios, and what information from or about such internal evaluations should be disclosed to investors to inform investment and voting decisions? How does the absence or presence of robust carbon markets impact firms' analysis of the risks and costs associated with climate change?

Voluntary environmental disclosure does not provide sufficient data to evaluate corporate environmental impact. Specifically, we have found considerable heterogeneity among voluntary disclosures by corporations with regard to environmental information. Of the 2,585 companies we studied[32] fewer than 20% disclosed all of the data-points we consider necessary for environmental impact valuation, thereby requiring imputation of the absent datapoints. Indeed, over 20% of public companies that we studied provided so little information that we had to exclude them from our analyses -- even with our sophisticated imputation techniques -- as the results would have been far too unreliable for investors to use.

A current leading source of ESG information comes from ratings providers which seek to digest the complexity of translating myriad metrics, issues, and management guidance into comparable ratings in the same way that credit ratings seek to translate financial risk from a number of drivers into a risk scale for investors. However, these ratings face a few challenges including most significantly their lack of transparency and comparability.

- Transparency: Several authors have documented that transparency around the methodologies from these ratings providers are not standardized nor fully

[32] Freiberg, David, DG Park, George Serafeim, and T. Robert Zochowski. "Corporate Environmental Impact: Measurement, Data and Information." (pdf) Harvard Business School Working Paper, No. 20-098, March 2020. (Revised February 2021.),

disclosed, which makes verification and replication challenging. We find this to be consistent with our research.

- Comparability: Ratings from the same provider or between providers do not provide comparable means for assessing environmental impact. Upon obtaining data from three leadings ratings providers, MSCI, RobecoSAM, and Sustainalytics, we find that the relation between the natural logarithm of environmental intensity[33] and the ratings is negative, consistent with the idea that firms that have greater adverse environmental intensity receive lower ratings.[34] However, the correlations between scores and environmental intensity are low to moderate, ranging from -0.13 to -0.26, indicating that the ratings are not providing information on the magnitude of the environmental impact. Further, our within-industry analysis suggests that the ratings are not differentiating across firms within an industry on the impact dimension. This finding is corroborated by several recent studies that document low inter-ratings correlations in addition to numerous biases including geographic and large-cap bias[35], thus increasing costs for investors who often need to select and aggregate across among the 100+ organizations providing ratings.[36]

As previously stated, these features of the current data landscape have implications for investors, and therefore to the SEC's mission,[37] even if the information does not have a current material effect on a company's balance sheet. As the amount of assets under some form of ESG screen increases, as expected by numerous industry experts, the SEC has an interest in ensuring that the investment mandate that investors select is being implemented. Without accurate metrics and data upon which investment decisions are to be based, investors are not protected and markets are not efficient. Further, even investors that do not have an explicit interest in social or environmental issues have an implicit interest in these disclosures to understand potential impacts on their investment and manage risks related to catalyst events.

Another recent IWAI study[38] documents the dynamic nature of issues considered to be financially material and hypothesizes a pathway by which issues can rise, often extremely quickly, to the level of financial materiality. Critically, the authors discuss how important proper organizational and industry response to the elevated

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[33] Environmental intensity is defined as our calculated monetary environmental impact divided by revenue.
[34] *Ibid*.
[35] LaBella, Michael, Lily Sullivan, Josh Russell, Dmitry Novikov. "The Devil is in the Details: The Divergence in ESG Data and Implications for Responsible Investing." QS Investors, a Legg Mason Affiliate, Whitepaper, September 2019. Accessed May 21, 2021 at <https://www.leggmason.com/content/dam/legg-mason/documents/en/insights-and-education/whitepaper/lm-qs-the-devil-is-in-the-details-0919.pdf>
[36] Hawley, Jim. "ESG Ratings and Rankings: All over the Map. What does it mean?" TruValue Labs, 2017. Accessed May 21, 2021 at <https://truvaluelabs.com/wp-content/uploads/2017/12/ESG-Ratings-and-Rankings-All-Over-the-Map.pdf>
[37] The mission of the SEC is typically summarized as protecting investors, and maintaining fair, orderly and efficient markets and facilitating capital formation.
[38] Freiberg, David, Jean Rogers, and George Serafeim. "How ESG Issues Become Financially Material to Corporations and Their Investors." Harvard Business School Working Paper, No. 20-056, November 2019. (Revised November 2020.)

demands of stakeholders is to preserving shareholder value. Proper risk management dictates that corporations should be anticipating and managing material issues to stakeholders; a business cannot operate at odds with stakeholders for long without these issues impacting the business itself and therefore investors.

Indeed, this is already happening. Our research shows that environmental intensity [39] is correlated with lower equity valuations by certain measurements; specifically greater environmental intensity is negatively correlated with both Tobin's Q[40] and the price to book value of equity ratios. This is after controlling for other determinants of valuation ratios, such as return on assets, leverage, firm size, capital expenditures, R&D expenditures, and dividends divided by sales. All models include industry, country, and year fixed effects. The estimates suggest that a firm with twice the environmental intensity has 2.4% lower Tobin's Q and 5.2% lower price to book value of equity.

We also find that the negative association between environmental intensity and market valuation has become more sizable in more recent years since 2010. The same conclusion holds true for environmental intensity scaled by operating income. The significance of this trifecta of research conclusions is that investors would be able to make better financially beneficial decisions if they could readily *evaluate and compare* the environmental impacts of the companies in which they invest. In short, transparency, consistency and comparability of disclosures are critical to the protection of investors.

Again referring to the SEC's mission statement of ensuring trust in the stability of markets to both reduce transaction costs and promote capital flows as well as protecting investors, it is advisable for the SEC to take a double-materiality approach to metrics in the longer term; that is, to include both items that are financially material to corporations now and those that are currently important to other stakeholders.[41] Both information sets are needed by investors. Nevertheless, we also recognize that all corporations are not scaled and resourced in the same way and thus, we believe that the SEC should start with a minimum disclosure standard along with a proportional standard to the company's size and organizational complexity for additional disclosures as the larger a corporation is, the more likely it is that one of its business areas will be at odds with a societal norm or its impact will be of a scale that a 'catalyst event' draws enough attention to make it financially material for itself and the industry and thus disruptive to investors and the market.

At a *minimum*, all corporations need to provide the following:

- Scope 1 & Scope 2 GHG emissions
- Carbon offsets and assurance of those offsets- In contrast to the CDP guidance, we believe that it is permissible to net Scope 1 & Scope 2 emissions against offsets in

[39] Environmental Intensity is calculated as total environmental impact divided by revenues

[40] Tobin's Q is a measure of the market value over the replacement value of assets.

[41] We recognize that the SEC's mandate is not limited to requiring disclosure of financially material information.

calculation of the corporation's overall impact; however, in advancing the goal of investor transparency, these elements should be disclosed separately. While outright reductions in emissions is preferable, sometimes businesses may find it more economically efficient for other organizations with a comparative advantage to reduce their emissions. So long as these offsets can be verified and assured, they should be rewarded.

- NOx, SOx emissions
- Water withdrawn and discharged, along with an evaluation of whether the water released is of the same quality as that withdrawn , with breakouts provided for operations in locations with high or extremely high baseline water stress as defined by the World Resources Institute's (WRI) Water Risk Atlas Tool.

A proportional rather than a universal approach may need to be taken with regard to these additional required disclosures:

- Scope 3 emissions in line with the Carbon Disclosure Project breakouts
- Reporting on how impacts on sustainability issues present both risks and opportunities to a company's business model.
- Report targets for sustainability issues and performance against these targets; provide guidance on use of suitable externally determined thresholds to help set targets.

In Appendix I, we also include a number of metrics we consider important with regard to employee and societal stakeholders, for future work.

Question 5: What are the advantages and disadvantages of rules that incorporate or draw on existing frameworks, such as, for example, those developed by the Task Force on Climate-Related Financial Disclosures (TCFD), the Sustainability Accounting Standards Board (SASB), and the Climate Disclosure Standards Board (CDSB)?[7] Are there any specific frameworks that the Commission should consider? If so, which frameworks and why?

We believe that there are more advantages than disadvantages to drawing on existing frameworks. Many such organizations have years of experience and recognition in the markets and have done substantial work on establishing taxonomies and definitions. Definitional alignment is helpful to investors and corporates who are already used to dealing with such organizations and eliminates confusion. Further, existing global standard-setters can offer valuable knowledge and expertise. We believe that building upon what already exists will help the SEC in rapid and credible development of a system of corporate disclosure standards that can be adopted globally.

Importantly, in September 2020, five leading framework and standard-setting organizations—CDP, CDSB, GRI, IIRC and SASB—announced a shared vision for a comprehensive corporate reporting system that includes both financial accounting and sustainability disclosure—and committed to harmonization and convergence over the following year. This effort has been accelerated by the moves by the IFRS Foundation to establish a sustainability standards board through an exploratory working group incorporating feedback from these five organizations in addition to the World Economic Forum. We are deeply encouraged by this effort, though at this stage the final outcome of this work is unknowable. While the SEC is not simply a follower of international standards, as it seeks what is right for the American financial context, in light of the materiality to investors referenced in our response to question 2 above – namely, that transparency, consistency and comparability are critical to the protection of investors – we do believe close attention to the developments at the IFRS Foundation is advisable.

Should the SEC rely upon an external standard setter, the standard setter must be reasonably free of external conflicts, either through lobbying or funding sources. This requires the organization be reasonably endowed with funds to ensure inter-year stability across political regimes, economic downturns, and potentially unpopular standards that are in the public interest. The organization must also have legitimacy among both governments, investors, and corporations.

Question 11: Should the Commission consider other measures to ensure the reliability of climate-related disclosures? Should the Commission, for example, consider whether management's annual report on internal control over financial reporting and related requirements should be updated to ensure sufficient analysis of controls around climate reporting? Should the Commission consider requiring a certification by the CEO, CFO, or other corporate officer relating to climate disclosures?

The Sarbanes-Oxley Act of 2002, in the wake of the WorldCom and Enron accounting scandals, recognized the importance of accountability at the most senior levels of a corporation to ensuring compliance with accurate reporting. Building on our prior comments about the current and potential materiality of disclosures of issues material to non-financial stakeholders and to providers of financial capital,[42] we believe a uniform approach should be taken to controls for such disclosures. We recommend the following:

- Require disclosure on the governance of material information. This should include a statement of management responsibility for such issues, including:
  - Who at board level is responsible for oversight;
  - Their expertise on these issues; and
  - Management performance incentives linked to non-financial issues.
- Require that material information be subject to independent assurance, including the company's materiality process. Such information is used for important decisions, so it should be reliable.
- Work toward a common global assurance standard for material information—one that includes guidance on assuring a company's materiality process. This will help ensure consistency in the application of assurance and improve the quality of such information.
- Recognize the potential to overburden smaller companies. High-quality independent assurance applied to all material information is the ideal but a phased approach may

[42] Hereafter we will refer to this set of information simply as material information.

be needed for companies with lesser resources that are newly in scope of the directive.

Question 14: What climate-related information is available with respect to private companies, and how should the Commission's rules address private companies' climate disclosures, such as through exempt offerings, or its oversight of certain investment advisers and funds?

According to several studies, the number of public companies has declined substantially in recent years. The number of Wilshire 5000 stocks is down 7% in five years and a breathtaking 50% in 20 years.[43] This suggests that an increasing number of companies are operating in the private markets where disclosure requirements are less stringent. Adding to the differences in the reporting requirements is potentially counter to the SEC's mission of ensuring capital formation. Further, requiring comparable disclosure is in line with the SEC's mission of protecting investors.

While the most vulnerable investors are generally not allowed to invest in such companies (through private equity funds), new investment products as well as new uses of old products have the potential to bring these risks into retail investors. The recent increase in Special Purpose Acquisition Companies ("SPACs") is a recent example of this potential. Furthermore, investors in private equity funds or high net worth investors, while they meet the standards of accredited and/or qualified purchasers depending on the offering type, have an interest in receiving information to manage their exposure to material risks related to climate. While many private equity managers may have the leverage to require private companies to disclose this not all will. Further, managers that require such information may acquire a reputation as challenging investors, thus disadvantaging their ability to find suitable investments and deploy capital efficiently.

Again, we believe that a tiered approach should be applied to SME's.[44] Startups receiving funds from friends and family as well as those receiving venture capital investments are not the same as the so called "private unicorns;" the latter should not escape comparable disclosure requirements merely because they have not yet gone public. Overly burdensome regulations relative to the size of small businesses could hamper capital formation without achieving the otherwise laudatory benefits of disclosure. However, this must be balanced against the potential risks of lack of disclosure to investors.

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[43] Krantz, Matt. "Chasing Right Stocks to Buy is Critical with Fewer Choices but Big Winners" Investor's Business Daily, November 2020. Accessed on May 26, 2021 at <https://www.investors.com/news/publicly-traded-companies-fewer-winners-huge-despite-stock-market-trend/>

[44] SMEs are small and medium-sized enterprises. The Small Business Administration provides specific guidelines by industry based on revenue and/or employees for businesses that qualify as a small business. The definition of a medium-sized enterprise in the United States is less well defined.

Question 15: In addition to climate-related disclosure, the staff is evaluating a range of disclosure issues under the heading of environmental, social, and governance, or ESG, matters. Should climate-related requirements be one component of a broader ESG disclosure framework? How should the Commission craft climate-related disclosure requirements that would complement a broader ESG disclosure standard? How do climate-related disclosure issues relate to the broader spectrum of ESG disclosure issues?

Monetization

We strongly believe in the potential of impact monetization and its alignment with the SEC's mission; in our experience investors want to measure positive and negative impacts on the environment and society arising from companies' operations, employment and products, and to do so in a user-friendly way. Our research shows that it is possible to monetize these different impacts and reflect them in financial accounts. This is investor-friendly as it allows for the use of established tools of financial analysis and the development of investment strategies and products that integrate the impacts of companies with financial and other relevant performance information. A recent European Commission Proposal acknowledged the potential benefits of this approach: "some natural capital counting methodologies seek to assign a monetary value to the environmental impacts of companies' activities, which may help users to better understand those impacts. It is therefore appropriate that sustainability reporting standards should be able to include monetized indicators of sustainability impacts."[45]

Employment Impact

Globally, increasing amounts of corporate value are derived from human capital, especially in developed economies like the United States, where the number of knowledge workers has doubled since the 1980s and is likely to continue increasing. An indication of the rising importance of human capital to businesses comes from required IFRS disclosures on personnel expenditures in publicly traded European firms:

> [From] 1991 to 2018, capital expenditures as a percentage of total sales remained relatively flat at about 10%. On the other hand, personnel expenditures almost doubled during that time. By 2018, personnel expenditures consumed approximately half of all of the average firm's revenues in our large sample of publicly traded European firms reporting under IFRS.[46]

The above paper, "The Stock Market Value of Human Capital Creation" by Rouen and Regier (October 2020) develops a proxy for firm-level human capital investment from publicly disclosed personnel expenses and examines the stock market valuation of impacts. They find that human capital creation efficacy is value relevant;

[45] European Commission, *Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting.* Brussels 21.4.2021, accessed May 21, 2021 at < https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021PC0189&from=EN>

[46] Regier, Matthias, and Ethan Rouen, in "The Stock Market Value of Human Capital Creation." Harvard Business School Working Paper, No. 21-047, October 2020.

sample long-short portfolios based on measure of human capital creation produced annualized abnormal returns of 4.0 to 9.3%. The paper's findings imply that market participants (analysts and investors) fail to completely understand the investment component of the expenditure.

However, disclosures which provide a proxy for firm culture are also decision relevant to investors. Employees are critical to the maintenance of corporate intangible assets, which Morgan Stanley estimates are now approximately one and a half times the amount of tangible assets.[47] In an analysis of nearly 2,000 publicly traded companies ranked by employee retention rates, they find that a portfolio comprised of top quintile employee retention companies had 25% higher cumulative gains than those of the bottom quartile. Further, they find evidence of causality for this positive (negative) alpha for companies with improvement (deterioration) in employee turnover.

While data on firms' human capital is growing increasingly available to those with the money and technical sophistication to scrape data from the web, this creates information asymmetries and leads to inefficient markets by distorting the value of the firm. We believe that investors require adequate disclosure not only to understand how corporations are investing in human-capital creation, but also to identify key risks and opportunities related to the maintenance and care of that capital from which an increasingly large share of value is derived for the firm. We, therefore, endorse mandating human capital disclosure so that investors can efficiently utilize these insights.

We provide detail for the suggested employment metrics that would satisfy this need in the appendix below.

Summary

The team at Impact-Weighted Weighted Accounts reaffirms the importance of the SEC's examination of its current disclosure requirements as critical to the organization's mission. Such disclosures within both the context of environmental and employment impacts are critical to enabling investors to properly assess risk and opportunities within markets as well as to maintaining fair, orderly and efficient markets and facilitating capital flows to companies best positioned to manage the dynamics of material impacts in the markets of the coming decades.

We are open to dialogue with the SEC Commissioners and staff should any of our comments be unclear.

Signed,

[47] Rouen, Ethan and Morgan Stanley Investment Management Counterpoint Global Insights. "Culture Quant Framework" January 2021.

Sir Ronald Cohen

Advisory Council Chair Impact-Weighted Accounts,
Chair Global Steering Group for Impact Investments

George Serafeim

Faculty Co-Chair Impact-Weighted Accounts Project,
Charles M. Williams Professor of Business Administration

Ethan Rouen

Faculty Co-Chair Impact-Weighted Accounts Project,
Assistant Professor of Business Administration

Appendix I: Recommended Metrics Related to Social and Employment Impact

Indicator Used in IWAI Employment Framework	How can the indicator be used?
Number of employees disaggregated by:	
Full-time, part-time employees, and contingent workers (independent contractors, temporary employees, among other sub-categories)	Measure wage quality, including access to living wage and wage equity
Gender, Race, Ethnicity[48] across different employment bands and levels	Investor relevant to the extent that companies are putting more and more resources into

[48] All disclosures and requests for disclosure should be made in accordance with appropriate jurisdictional laws and regulations regarding data privacy and identification of race and gender.

	improving their DEI and/or struggling to attract/retain talent because of poor DEI.
Total cost of the issuer’s workforce, including wages, benefits and other transfer payments, and other employee expenses	
Turnover (or comparable workforce stability metric)	