

MGMT

of Innovation and Technology

Nr. 4 December 2023

ESG Ratings and Their Challenges

– Unraveling Ambiguity and Proposing Solutions for Consistency



ESG Ratings and Their Challenges

— Unraveling Ambiguity and Proposing Solutions for Consistency

By Rickard Sandberg

ESG ratings evaluate firms on Environmental, Social, and Governance aspects. Despite a widespread use, debates arise over lacking standardization and rating discrepancies among agencies. This article advocates statistical modeling and ML algorithms to derive accountable and consistent ESG ratings from a stakeholder perspective, emphasizing managerial insights on how to act based on these ratings.

The article provides a summary of conceptualizations and findings derived from a series of other articles by the same author, all originating from the "AI for Sustainability" project.

Asset owners and managers globally are increasingly incorporating ESG criteria into investment analysis and decisions, and the market for providing corporate ESG ratings have proliferated. However, there are several concerns with existent ESG ratings fueling the debate. These concerns include divergence in what is measured (i.e., scope divergence), how measurements are conducted (i.e., measurement divergence), and differing views on the relative importance of environmental, social, and governance factors (i.e., weight divergence). Collectively, these issues result in noticeable rating discrepancies among agencies, creating great confusion from various perspectives such as:

- Investment perspective: ESG ratings serve as an informational foundation for investment decisions, but the lack of coherence among different ratings poses a significant challenge – which one to trust? This confusion hinders investors, increasing the risk of misplaced investments and creating barriers to wider ESG adoption.
- Management perspective: Ambiguous ESG ratings leave business managers uncertain about how to respond. Are the ratings a result of poor performance or measurement? Mixed signals impede companies' efforts to enhance their ESG performance.
- Value relevance perspective: Differences among ESG ratings make it challenging to assess the impact of ESG factors on company returns, cost of capital, and future cash flows. ESG

performance may not be accurately reflected in corporate stock and bond prices, posing a challenge for investors to identify outperformers and laggards.

This ambiguity prompts fundamental questions about the quality, relevance, and comparability of prevalent ESG ratings and the lack of transparency how they are constructed. After all, it is crucial to recognize that ESG ratings guide trillions of dollars, with the total value of Assets Under Management (AUM) explicitly dedicated to ESG principles reaching \$41 trillion last year—an increase of 78% since 2016.

Measuring ESG from a Stakeholder Perspective

To resolve the usability and credibility of ESG ratings, several actions need to be taken. The first action we propose pertains to the quality aspects of ESG measurements. The American Accounting Association (AAA) asserts that non-financial performance measures, including sustainability metrics, should be evaluated using the same criteria as financial performance measures (i.e., by relevance, reliability, and comparability). Therefore, we introduce a new measurement coined Accountable Sustainability Measurement (ASM), also as an answer to the lack of standardized methods. Our ASM aligns with established standards by the Sustainability Accounting Standards Board (SASB). It is grounded in scientifically proven methods, translating into more technical and statistical terms in the specification and estimation of our models (see Westlund et al., 2022, for details). To emphasize the importance of accountable measurements, we cite

Professor Claes Fornell – the founder of the American Customer Satisfaction Index (ACSI) – “Measure without the benefits of science – meaningless at the best and misleading at the worst.”

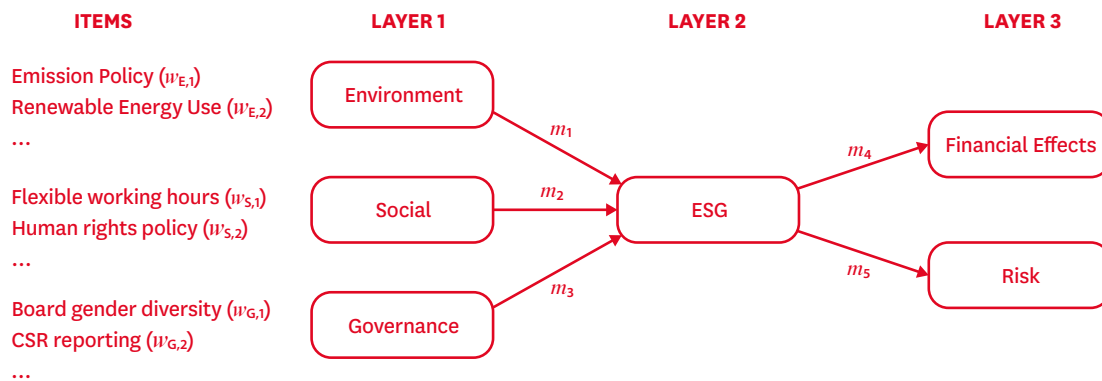
The second action we propose is to measure ESG ratings from a stakeholder perspective (e.g., investors, society, employees, customers, etc.). In fact, we question the role of existing ESG ratings as instruments for managing sustainability improvements due to a lack of stakeholder focus in identifying what is crucial to prioritize for achieving sustainability improvements.

To measure ESG ratings from a stakeholder per-

“We question the role of ESG rankings as instruments for managing sustainability improvements.”

spective and foster sustainability as part of a larger “ecosystem,” we propose a multi-layer predictive model (MLPM) framework. To fix ideas, with company investors as stakeholders, a simplified version of the model can be designed with a first layer encompassing E, S, and G factors (for instance represented by items such as greenhouse gas emissions, labor conditions, and board diversity, respectively). The second layer can represent the ESG rating itself, and a third layer can include various financial factors (return, risk, growth, etc.). See the figure for an illustration of a prototype MLPM.

The predictive (or causal) aspect of the MLPM involves connecting different layers, and we



identify links or impact measures (arrows denoted by "m" in the figure) from the E, S, and G factors to the ESG rating, and subsequently, to financial factors. The novelty of this approach lies not only in providing ratings but also in offering impact measures on how to act on the ratings and guidance on how they can be improved. In turn, how these improvements in ESG factors affect financial performance are also measured. The MLPM therefore facilitates the optimization of operational and strategic ESG incentives, presenting key managerial considerations for both investors and management teams. Examples of such considerations include:

- Empowering investors in making informed decisions, such as choosing to invest in companies with an ESG rating surpassing a predefined threshold. Alternatively, investors may opt for companies exhibiting a commensurately high expected return or a desirable risk profile, all contingent on a specific ESG rating.

- Investors wield the potential to drive corporate sustainability initiatives by signaling a commitment to invest only in entities surpassing a specified ESG threshold. Furthermore, they can act as catalysts for positive change by encouraging companies, particularly those with perceived low ratings, to amplify their efforts in specific ESG dimensions.

- On the managerial front, the MLPM empowers leaders to discern the most effective pathways to attain a designated ESG rating; the delineation of the relative importance of each factor ("m") and down to item components weighting ("w") equips companies with a clear roadmap for targeted improvement. It facilitates ongoing monitoring and influence over ESG sustainability, allowing managers to benchmark their performance against industry leaders. Through the adoption of operational and strategic matrices (see Sandberg et al., 2022, for details), companies can strategically enhance their ESG ratings, leading to tangible financial benefits.

Toward this end, our ASM philosophy for measuring ESG ratings shares strong similarities with the ACSI, a widely applied index recognized for its usability and credibility. Through our proposed actions, ESG ratings can be consistently measured over time, providing stakeholders and companies with clear guidan-

ce on how to respond to them.

How Are Different Data Sources and AI Helping Us?

The proposed MLPM, at its full scale, integrates data from various sources to estimate weights ("w"), impact measures ("m"), factors, and ratings. While the primary source is company stakeholder data, the model also incorporates macroeconomic and financial data, along with company disclosures, financial reports, and textual data. Through advanced analytics – Statistics, ML algorithms, and Natural Language Processing – we can achieve more accurate, efficient, and comprehensive data analysis.

What is Next?

In the "absence" of a structured framework to report and monitor firms' ESG efforts, the burden lies on companies to communicate their initiatives (which very well may be biased; mere lip-service), and on stakeholders to research them. The new Corporate Sustainability Reporting Directive (CSRD) is, as such, a very welcome initiative. Alongside with some companies volunteering for self-regulation and self-reporting - being transparent about how they are going "green" and expecting to gain competitive advantages - we anticipate an increasing relevance of ESG ratings. This is because more standardized and fair information will become available (in a sense, data quality improvements).

Due to ESG ratings confusion, many investors seek to build in-house competencies to complement agencies' ESG ratings. For instance, understanding the intricacies of ESG factors and incorporating them into investment decisions can provide a more comprehensive assessment. On a company basis, we believe it is wise to explore ways to assess their own ESG performance through the lens of stakeholders, such as their customers.

Understanding their perspectives on environmental, social, and governance matters can contribute to a more holistic evaluation of their ESG initiatives.

Although more information about companies' sustainability efforts will be accessible, there is still much work to be done with the actual measurements of ESG ratings and how best ESG ratings are used in practice.

Situated under the umbrella of the House of Innovation at the Stockholm School of Economics, the Center for Data Analytics (CDA) is a center that provides applied, theoretical, and simulation-based research in statistics, econometrics, and data science, with applications in Business Administration, Economics, and Finance, and a special focus on AI for Sustainability. CDA has several research collaborations with other institutions as well as with the Swedish industry.

FURTHER READINGS:

- > Westlund et al., 2022. On Accountable Sustainability Measurement. Working paper.
- > Sandberg et al., 2022. Managing Firm Sustainability by an Investor Stakeholder Perspective. Working paper.



RICKARD SANDBERG

rickard.sandberg@hhs.se

Head of Center for Data Analytics at Stockholm School of Economics, focusing on Machine Learning applications in finance and society, including "AI for Sustainability" and "Prediction of Large Systems Economic and Financial Variables."