Governing ESG Ratings: Institutional Solutions to the Problem of Dimensional Distortion

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Abstract. The impact of Environmental, Social, and Governance (ESG) ratings on sustainable investment and corporate accountability worldwide is significant. But there are major variances between ESG rating agencies that make them inconsistent and incomparable. This paper delves into the empirical phenomenon of dimensional distortion — systematic mis-specification of ESG factors in terms of their definition, weighting, and aggregating — discussing its origins and implications. Empirical evidence demonstrates that divergence leads to higher audit fees, greater financing costs, more extreme market fluctuations, and weakens the incentives for environmentally benign innovation and responsible institutional investors. Three main institutional drivers underlie this distortion of the bond-ratings market: (1) Fragmented and non-compulsory regulatory frameworks that lack common standards for disclosure and methodology; (2) Commercial incentives (and conflicts of interest) built into issuer-pay models, which encourage overrating; (3) Informal cultural-political factors that influence how companies behave and ratings are read in different countries. Meeting these challenges necessitates a coordinated approach of institutional governance reform emphasizing methodological harmonization, transparency, and cultural awareness. To sum up, this review highlights how badly new regulatory and governance solutions for making ESG ratings more credible are needed if a truly reliable, sustainable finance ecosystem is to emerge.

1 Introduction

The rise of Environmental, Social, and Governance (ESG) ratings as essential components within global capital allocation, corporate accountability, and sustainable development energies is now well established. Driven by the demand for non-financial disclosures, ESG ratings are playing an increasingly important role in investment decision-making and corporate benchmarking, as well as regulatory frameworks across developed and emerging markets. The Global Sustainable Investment Alliance found that sustainable assets account for more than 36% of professionally managed assets globally and that investors around the world are embracing ESG integration, indicating institutional and retail investments. In this context, ESG rating agencies (e.g., MSCI, Sustainalytics, or Refinitiv) serve to translate qualitative data that relate to ESG factors into a standardized score for comparability.

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However, new research has pointed to serious flaws in ESG ratings as well — their credibility and coherence vary widely between providers. In particular, researchers refer to dimensional distortion, suggesting that the differences in ESG scores are not due to small errors but reflect fundamental differences in the definition, weighting, and aggregation of environmental, social, and governance criteria [1]. Thus, a company that may have one of the highest ESG scores according to an agency could have one of the lowest in accordance with another because each firm prioritizes different concerns, i.e., carbon emissions versus labor practices or board composition [2]. Such absence of any clear standardization leads to an ESG landscape that is disjointed and, as a result, also becomes opaque, disputed, and misleading in terms of the actual quality.

Such distortion has widespread implications. In terms of financial impacts, as mentioned earlier, the divergence in ESG ratings results in higher uncertainty, this increases audit costs and an increase in the cost of capital for firms, leading to volatility in capital markets [3]. On the operational side, ESG incoherence blunts firms' ability to monitor their own performance, misaligns executive incentives, and undermines the market value of sustainability commitments. Broader, rating dispersion threatens the very power of the ESG promise to channel capital towards sustainable long-term value creation.

Yet regulators worldwide are hamstrung by pursuing separate efforts on a global issue. Recently, it has seen meaningful steps at the EU level, with a proposed Corporate Sustainability Reporting Directive (CSRD) and proposals to regulate ESG rating providers, but other jurisdictions continue to rely mostly on voluntary frameworks: this reinforces cross-border inconsistencies. Navigating this complexity within a framework to address ESG rating distortion will likely require working on institutional governance solutions, such as regulation, standard-setting, assurance mechanisms, and multi-stakeholder oversight.

Taking an applied, governance-based perspective, this paper systematically reviews how dimensional distortion arises and its economic implications; the institutional incentives that lead to rating disagreements; and new governance/regulatory measures designed to regain commonality and confidence. This paper is structured as follows: after defining dimensional distortion and presenting comparative evidence of its real-world impacts (Sections 2 – 3), diagnose institutional causes (Section 4) and review potential governance remedies (Section 5), before concluding with some strategic insights (Section 6).

2 Defining dimensional distortion in ESG ratings

A different type of scoring distortion relates to how well (or badly) scores from one entity agree with those from another, in cases where the Environmental, Social, and Governance (ESG) dimensions are defined, weighted, and aggregated systematically dissimilar. A seminal analysis by Berg, Kölbel, and Rigobon (2022) identifies these sources of rating divergence, using a decomposition approach: with as much as 56% of divergence due to differences in measurement, 38% differences in scope, and only around 6% from differences in weights [1]. This aggregate confusion illustrates how ESG rating discrepancies are predominantly the result of diverging methodologies, and not varying interpretational significance — to the detriment of a comparison necessary for sustainable finance.

Starting from this background, Capizzi, et al. analyze Italian listed companies and confirm that the main driver of divergence is due to differences in sets of indicators and weight distribution between ESG dimensions (especially on social and governance pillars) [2]. They develop a model that decomposes the ESG scores into their value and weight components at both floors (like Pillar or Sub-Pillar) because they find that misalignment in these components, particularly in S & G dimensions, leads most of the divergence. The results of

the study emphasize an immediate requirement for a standardized and transparent process of indicator selection to prevent variability.

Differences in methodology are increased by subjective scoring practices inside these agencies, further distorting the dimensions. Billio et al. investigate how internal discretion and non-transparent scoring models could heighten divergence, especially when values are (qualitatively or semi-quantitatively) scored by the agency [4]. The authors deliver that such subjectivity (especially in softer social indicators or governance practices) brings biases and inconsistency across providers.

In ratings, cultural institutions and informal norms are doubly compounded. Tian shows how a culturally embedded factor, Confucian influence, impacts a large extent on firms operating in Confucius-informed environments — notably on environmentally polluting state-owned enterprises (SOEs) less so — and that the greater the ESG rating divergence between providers [5]. The divergence is accounted for, in part, by different perceptions of responsible behavior outside property rights-based contexts driven more by the country's traditional culture and state ownership. The effect is stronger in firms with older CEOs and those exposed to mandatory ESG disclosure regimes, indicating that leadership demographics and disclosure requirements at least partially mitigate the cultural influence on rating outcomes.

In combination, these nested sources of distortion — measurement inconsistency, indicator and weight diversity, subjective scoring processes, and cultural-institutional influences — degrade the comparability, transparency, and trustworthiness of ESG ratings. The distortion of sustainability scores provides famous practitioners less of a crutch to hitch their investing, risk assessment, and performance benchmarking practices to. To policymakers, this means ratings can be indeterminate and not credible, absent institutional governance mechanisms to converge methodologies.

Thus, this section suggests dimensional distortion is a difficult and multi-faceted problem in many dimensions, not a simple technical issue but a strongly institutional one. Concerns about each layer need to be addressed by researchers and policymakers as they try to create durable governance frameworks for ESG ratings that have long-lasting information content and veracity in finance for sustainability.

3 Empirical consequences of dimensional distortion

The practical implications of ESG dimensional distortion are a lot more serious and pervasive than methodological inconsistencies would suggest; they go to the heart of firm valuation, market risk premia, investment productivity, and innovation.

Higher audit fees are associated with firms exhibiting greater ESG rating divergence, which implies higher information asymmetry and perceived operational risk in China. Ling & Liu highlight these complexities directly in their analysis of over 1,000 A-share listed firms from 2015 to 2022 and demonstrate that increased ESG rating divergence is positively linked with audit fees level; thus supporting the grounded idea across literature that inconsistent ESG evaluations impose layers of difficulty and required scrutiny at auditors' end [6]. Second, this apparent 'calculation of costs' tended to be stronger in firms engaging more in internationalization or low-carbon activity, which implies that some external governance pressures might partially counteract these escalating audit costs.

Beyond the pricing of audits, variance in ESG ratings has financial market consequences as well. Rating inconsistency: Zhao, Liu, and Wang show that higher financing costs and greater stock return volatility in rating inconsistency stem from information asymmetry [7]. Investors ask for a premium to take each unit of risk that they price given the more diverse ESG signals are, epitomizing an agency failure. That volatility undermines the capital access

for firms and raises the cost of equity, pushing up the cost of sustainable investment and making them less efficient.

In South Korea, there is more idiosyncratic volatility and lower cumulated abnormal returns for cases of splitting the ESG rating (where one receives a much higher or lower score among rating agencies) in geographically split [8]. Their work implies that diversity dents investor confidence at a time when ESG (environmental, social, governance) has become more mainstream in many markets. That investors prime the markets with optimism upon reading positive ratings pronouncements is consistent with the predictions of the "optimism-bias hypothesis," which posits that investors, to begin with, will optimistically overprice favorable ratings, and then be forced to price out some of this bias when they encounter contravening evidence subsequently, thereby giving rise to lower abnormal return coefficients and fewer pass-through pension fund investments.

At the same time, inconsistent ESG behavior also impacts strategic firm behavior types as well, especially digitization transformation. In this vein, Li further illustrates that firms with larger discrepancies in ESG ratings are compelled to expedite the pace of digital transformation in China per chance for said firms to diminish their opacity and therefore assert greater command as to how ESG characteristics are delineated [9]. While this approach could enhance transparency in disclosure, it also highlights the extent to which firms respond performatively to ESG ambiguity by making operational shifts.

It also makes green innovation and participation of institutional investor activities very sluggish by the rating divergence. The study by Valero-Gil et al. explains that innovation in response to ESG rating credibility would be more significant for firms with a more stable ESG rating, due to the higher cost of switching and reputation loss [10]. On the flip side, businesses rated extreme across a majority, if not all, categories have trouble courting institutional investors that in many cases depend on accurate ESG data to understand long-term sustainability and social consciousness.

These empirical insights bode especially poorly for how real-world malpractice accountability courts distort dimensions. First, it elevates informational frictions so that market participants—auditors, creditors, investors—require more compensation for the uncertainty. Second, it erodes company valuations by limiting capital access and increasing market volatility. Thirdly, it impacts manager behavior as a result that firms move towards digitalization and pioneering strategies of defense to increase transparency. It undermines sustainable progress by curtailing investment in green innovation and disincentivizing institutional investor engagement.

Hence, dimensional distortion is not just a beauty contest; for an absence can be seen as existential by sustainable finance ecosystems. Efficient capital allocation, investor confidence, corporate innovation, and market stability all benefit from credible ESG ratings because they can be used as reliable comparisons. This evidence deserves immediate response from governance institutions, regulators, and rating providers to combat rating divergence as a chronic impediment to serious ESG integration.

4 Institutional drivers of dimensional distortion

Many deeply rooted institutional factors have contributed to continuing discrepancies in ESG ratings. These include regulatory frameworks, commercial incentives, and informal cultural influences – all of them forming an array of structural obstacles rooted in the very fabric of ESG rating. Given these institutional drivers, effective governance reforms are heavily dependent on understanding them.

4.1 Fragmented and voluntary regulatory landscape

A dominant driver of the variance in ESG ratings is the lack of regulatory uniformity or consistency in ESG disclosure standards by jurisdiction and largely voluntary compliance. Even if major markets like China and the US are part of them, ESG reporting is largely non-mandatory with huge heterogeneity in firm disclosure levels and rating agencies' interpretation of it [11]. Since there are no laws and regulations in place, rating providers have the flexibility to develop a wide range of methodologies that cause biased ESG assessments.

Except for the European regulatory initiatives in recent years (The Corporate Sustainability Reporting Directive (CSRD) and ESG Ratings Regulation are already on the table within the EU), which have focused on tightening disclosure standards and increasing transparency, such attempts do not directly touch how rating methodologies across providers are harmonized or standardized [11]. British regulators are more beholden to the ESAs, and they have made greater progress in harmonizing indicator selection than their US counterparts, who responded to similar mandates from Congress by noting flexibility in implementing technical standards.

In addition, even within mandatory regimes, regulatory fragmentation continues. However, Mehran and Vamvakidis demonstrate how differing national legislation, sector particular exceptions, and varying enforcement mechanisms in different jurisdictions together form an ESG governance that is a patchwork [12]. This disparity makes it difficult for the methodology to achieve a standard, as each rating agency modifies its model to correspond with its particular disclosure environment. Much of this is thus only an illusion

The absence of an internationally recognized standard leads to greater problems, as cross-border comparisons are difficult and dimensional distortion is encouraged. To put it simply, the voluntary or fragmented regulatory environment is not able to provide any real control of rating discrepancies. No global mandates to make disclosure content, format, and frequency common produce uniform disclosure standards, but they do ensure that rating agencies can continue producing their diverse evaluation models. And that means new disparity.

4.2 Commercial incentives and conflicts of interest

Institutional factors such as ESG ratings divergence lie in pure industry structure. The commercial incentive coupled with an agency's interest in limiting competition is another critical factor that causes this mismatch. Billio et al. note that many agencies work under the issuer-pays model, whereby companies pay directly for favorable ESG ratings [4]. Such a business model places pressure on rating agencies to raise scores, reduce their methodological transparency, or selectively cherry-pick those indicators which are most similar to what companies desire.

Under these commercial pressures, agencies will place more emphasis on proprietary methodologies and weighting schemes that set them apart from the competition, even if it is done at the expense of fairness or credibility. In order to increase market share and retain clients, agencies may turn a blind eye to negative signals in ESG ratings; they read qualitative information in an optimistic light, hence creating a distorted sense of scale.

In addition, the competitive structure of ratings agencies creates large economies of scope in method psychoanalysis. A lack of transparency around their scoring algorithms also hides how ratings are arrived at, so that the outside world cannot scrutinize them and investors and regulators alike easily become suspicious.

As a result, the issuer-pay model and resulting conflicts of interest act as structural barriers to convergence. Without robust legal regimes to keep things in check or alternative financing mechanisms, for instance through an investor-pay or an independent third-party

model, commercial incentives will mainly continue to favor divergence in ratings systems and reduce overall effectiveness of governance because companies can escape scrutiny for their actions when they know there's no one looking over their shoulder.

4.3 Informal institutional and cultural influences

In addition, informal institutions play significant roles in influencing ESG disclosures and ratings beyond the formal regulatory as well as market-based incentives. Tian shows how ESG rating discrepancies in China, particularly with respect to state-owned firms, are influenced by Confucian cultural values [5]. While these concepts all represent a theory that responsibility comes through practice, the differing and variable practices of disclosure or integrity stem from the ancient values within relational obligations and governance, which are different from Western understandings of what responsible behavior entails.

In line with this, Liang and Renneboog find evidence from an international sample of countries consistent with the broader political, cultural, and legal contexts affecting the consistency of ESG ratings [13]. For example, they maintain that rating divergence is due to stakeholder expectations and enforcement rigor rather than formal regulatory mandates or manifestations of differing societal values. For instance, companies in these previously mentioned regions with better-established rule of law cultures and civil societies tend to score better on ESG ratings than firms operating in less developed institutional environments.

These sorts of informal institutions embed ESG ecosystems in heterogeneity, which resonate over corporate disclosure practices and rating agency evaluations. These forces can only be better aligned with top-down mandates to a limited extent, as compared to formal regulations, and call for more subtle and culturally informed governance interventions.

5 Conclusion

This paper has systematically examined the phenomenon of dimensional distortion in ESG ratings, emphasizing its multidimensional nature and profound implications for sustainable finance. By unpacking the sources of divergence — ranging from measurement inconsistencies and indicator heterogeneity to subjective scoring and cultural influences—it reveals how ESG ratings lack the comparability and transparency necessary for effective capital allocation and corporate accountability. Empirical evidence from China, South Korea, and beyond underscores that such rating divergence increases audit costs, financing expenses, and market volatility, while discouraging green innovation and institutional investor participation.

The institutional analysis highlights that fragmented and voluntary regulatory regimes fail to provide a cohesive framework to standardize ESG disclosures and rating methodologies. Concurrently, commercial incentives rooted in issuer-pay models create conflicts of interest that promote methodological opacity and score inflation. Informal institutional factors, particularly cultural norms and political contexts, further entrench rating heterogeneity, making convergence an even greater challenge.

To overcome these entrenched barriers, the study advocates for comprehensive governance reforms that combine regulatory harmonization with enhanced transparency, robust conflict-of-interest management, and culturally sensitive approaches. Such reforms are essential to restore the credibility, reliability, and strategic value of ESG ratings. Ultimately, addressing dimensional distortion is critical to unlocking the full potential of ESG integration as a driver of sustainable investment and responsible corporate behavior globally. This paper lays the groundwork for future research and policymaking aimed at creating a more consistent and trustworthy ESG rating ecosystem.

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