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ESG Rating Divergence

Yuxin Shi[1*†], Tong Wang[2†], Zijian Huang[3†], Tianyu Peng[4†]

[1]*Business School, Nanjing University, Nanjing, China*
[2]*Business School, Wenzhou Kean University, Wenzhou, China*
[3]*School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China*
[4]*Business School Dublin, University College Dublin, Dublin, Ireland*
**Corresponding Author. Email: 221098128@smail.nju.edu.cn*
[†]These authors contributed equally to this work and should be considered as co-first author.

Abstract. ESG rating is a key link in the development of ESG, while the current global ESG rating agencies are numerous in number, with very different backgrounds and large rating divergences, and it is still difficult to generate a consensus on the rating of the same subject. This paper examines the impact and causes of ESG divergence in detail. It is pointed out that ESG divergence mainly stems from the differences in evaluation systems, data sources, and the extent of information disclosure. At the same time, it has an impact on investors, corporations and intermediaries. Finally, we propose a variety of possible approaches to investors and researchers to help them do better under ESG divergence conditions.

Keywords: ESG ratings, Divergence, ESG investing, sustainable finance, empirical research

1. Introduction

ESG ratings are designed to assess a company's environmental, social, and governance performance and risk, and these ratings are often conducted by third-party agencies such as MSCI, Sustainalytics, FTSE Russell and others. ESG plays a significant role in optimizing portfolio management, while ESG ratings have a significant impact on asset prices and corporate decisions. Now, more and more investors will invest according to ESG ratings, and the impact of ESG ratings on investment is undoubtedly large. However, different institutions have different proportions and methods for ESG rating. The correlation test which shows ESG divergence clearly by LaBella used in this paper shows an average correlation of 0.47 among the six ESG providers with the highest correlation in the environmental dimension (0.43) and the lowest in the governance dimension (0.19) [1].

The definition of rating followed by each rating company is not consistent. Dimson argues that the use of ESG ratings alone in portfolio construction is unlikely to make a significant contribution to portfolio returns due to the divergence in ESG scores of different ESG rating vendors for the same company [2]. The problems caused by ESG rating divergences undoubtedly seriously affect investors' investment behavior and companies' expected returns. Based on the fact that ESG rating divergence will bring some significant impacts such as decision-making difficulties for investors and doubts about corporate strategy, it is necessary to study the issue of ESG rating divergence.

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According to this non-negligible issue, our main research questions are the causes and effects of the ESG rating divergence and how to solve it. First of all, to explore the underlying reasons for these differences, we analyze several aspects of the rating agencies' measurement methods, changes in time horizon, data sources and coverage, company size, and disclosure levels to reveal the main reasons for the differences in ESG ratings. We also analyze the impact of this divergence from three aspects: investors, companies, and intermediaries. As for the impact on the company, we also conduct an in-depth analysis from three aspects: bond spread, debt financing, and stock. At last, our study uses KLD data and Zhuhong Mao et al.'s theoretical research to provide feasible solutions for investors and researchers, which alleviates the divergence.

Based on our research we have found that information disclosure plays a very important role in ESG rating, and companies with poor information environments will have higher negative ESG ratings. As for the impact, the ESG rating confusion would result in a higher cost of debt-financing, increase the information processing cost and difficulties, lower smaller investors' demand, and increase the investment risk. In terms of method, we suggest investors should match their preferences with ratings, and researchers consider multiple factors, however, we emphasize that no one method is suitable for all situations. It is important to choose the method that is suitable for your investment or research.

This study contributes to the research of ESG rating divergence by analyzing the impact of the causes of ESG rating divergence and providing some solutions. At the same time, it provides some opinions for investors when investing and some insights into the company's ESG governance, which helps to reduce the risks of the investment market and promote the stability and sustainable development of the investment market.

2. Reasons for divergent ESG ratings

First of all, there are obvious differences in the understanding of ESG evaluation scope at home and abroad. China's ESG rating system is in the development stage and lacks unified domestic standards, while foreign ESG rating agencies have relatively mature cognition and standards in environmental and social responsibility. For example, foreign studies believe that setting too many non-economic goals of state-owned enterprises will reduce the management level of enterprises and have a negative impact on ESG performance. Hillman explores the resource allocation challenges that companies may face when pursuing multiple objectives at the same time. Especially when a company focuses on both economic and non-economic goals, the company may have limited resources, resulting in a misallocation of those resources. This mismatch may not only prevent managers from focusing on core business objectives, but may also lead to a lack of sufficient resources to support non-economic objectives, ultimately reducing overall management efficiency [3]. While China's rating agencies pay more attention to the social responsibility of enterprises. This difference leads to the different indexes and measurement methods of ESG evaluation system. Foreign agencies may focus more on environmental protection and governance structures, while domestic agencies tend to emphasize social responsibility and economic contribution. In addition, different rating agencies focus on different aspects, some agencies may focus on environmental protection, while others may focus more on fulfilling social responsibilities. Therefore, unifying and standardizing the ESG evaluation system and reducing the differences in evaluation standards and methods are crucial to resolving the differences in ESG ratings [3,4].

Second, while ESG scores are generally based on similar environmental, social, and governance (ESG) environments, the coverage and time span of indicator data varies from institution to institution [3]. In Gregor's research, three ESG rating agencies, ASSET4, Bloomberg and KLD, were

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analyzed. ASSET4 has evaluated about 1,000 companies since 2002, and by 2014 it had evaluated more than 4,300, using more than 850 data points, showing a wide range and depth of coverage. In contrast, KLD, which has evaluated 500 U.S. companies since 1991 and expanded its coverage to 3,000 by 2012, uses a more streamlined number of metrics of 62-80, but may lack the depth and breadth of data in some respects [3].Bloomberg provides ESG data for about 4,100 companies, with a focus on comparability and consistency of global data. What is noteworthy is that several ESG rating agencies in the market do not strictly classify or distinguish the data of all enterprises, so it may cause a company to be rated by multiple rating agencies, and different rating agencies often give varying ratings for the same company, leading to mixed data and making comparisons difficult [3]. At the same time, there may be companies that are not rated by rating agencies, leading investors to have an incomplete understanding of the ESG information of these companies.

It should not be ignored that the source of the data depends heavily on the extent of the company's disclosure. The degree of corporate information disclosure refers to the degree of outsiders' access to corporate information, which can be measured from the company's external accounting reports, private information acquisition activities and information diffusion process [5]. ASSET4 and Bloomberg ratings rely primarily on annual reports and public information provided by companies, and are therefore heavily influenced by the extent to which companies disclose information. In contrast, KLD's score is based more on whether a company is involved in controversial industries, and its data comes from more diverse sources, such as media reports and surveys by non-governmental organizations [3]. Therefore, the higher the degree of corporate information disclosure, the greater the autonomous selectivity of rating agencies in evaluating ESG performance, resulting in greater differences in rating results. On the other hand, rating agencies' differences in the identification of corporate "greenwashing" behavior will also lead to rating differences. Greenwashing refers to a company's attempt to convince the public that its products, services, or overall operations are greener or more socially responsible than they really are by making exaggerated or misleading environmental or social responsibility claims. Some rating agencies identify and punish companies for greenwashing through field visits, fact-finding research and professional interpretation, while others may be misled [4]. At present, China's ESG information disclosure requirements for listed companies are mostly voluntary, and there is no unified standard for disclosure content and caliber, so that rating agencies rely on their own unique information acquisition channels to collect and evaluate ESG practices of enterprises, which further aggravates the problem of information asymmetry [4].

3. Influence

There are three main groups affected by the divergence in ESG ratings: investors, corporations and intermediaries. The effects on each one are considered in turn.

3.1. Investors

On the whole, ESG rating divergence brings confusion to investors. First of all, due to ESG ratings divergences, investor might consider the ESG rating by different rating agencies as subjective and instable, resulting the damage of ESG rating credibility [6].

Furthermore, ESG rating divergence increases the informational workload for investors. This implies that deciphering the methodologies, data sources, and weightings used by various agencies becomes a more challenging task for investors. The high thresholds of understanding ESG rating difference may attract investors' attention away from ESG factors. This can lead to some investors

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being more cautious of relying on ESG ratings and even avoiding ESG issues [7]. As a result, investors will reduce investments in the ESG aspect, which will definitely decrease a stock's ESG influence. Finally, the divergence in ESG ratings can trigger inconsistent responses from investors within the market. Some investors might choose stocks with high ESG rating degrees rated by one agency, but some other investors might disregard these stocks due to the existence of low ratings from other agencies. This diversity in preferences can result in fluctuations in the demand and supply dynamics of stocks, complicating the pursuit of excess returns for investors. Additionally, market volatility can further hinder the precision of investment forecasting.

In terms of bond, under the assumption that investors buy corporate bonds based on ESG preferences, Zou et al. analyzed the relationship between ESG rating divergence and bond spread. ESG rating divergence amplifies the information gap among market participants evaluating ESG performance [8]. So investors will seek a reduced bond price, necessitating a higher risk premium, which in turn, leads to an expansion of the bond spread. Moreover, ESG rating divergence lowers smaller investors' demand for the related bonds by reducing their confidence in companies' ESG performance, which result in the wider bond spread for these corporations.

The impact is particularly pronounced in the secondary market due to the larger presence of smaller investors, which amplifies the impact of ESG rating confusion on bond spreads.

3.2. Corporations

We discovered that ESG rating divergence is related to bond spread and debt-financing.

Zou et al. observed that discrepancies in ESG ratings result in wider bond spreads [8]. They incorporated the confusion surrounding ESG ratings into a basic equilibrium model for corporate bonds, which includes investors who are sensitive to ESG factors, to study the impact on spreads. The underlying principle is straightforward: the alignment of bond selection with investors' ESG preferences means that varying ESG ratings can influence bond pricing and spreads. When there is divergence in ESG ratings, it amplifies the information asymmetry among investors evaluating ESG profiles. As a result, investors will seek lower bond prices and higher risk premiums, thus increasing the bond spread. And as we know, a wider spread correlates with an increased cost of issuing debt. Consequently, divergence in ESG ratings can elevate the cost of debt financing.

Guo et al. found that firms receiving a recognized high ESG rating can secure more substantial debt financing [9]. These findings underscore the importance for companies to enhance their information disclosure and prioritize their ESG performance.

3.3. Intermediates

Financial analysts play a pivotal role in capital markets by predicting companies' future financial conditions and offering investment advice. Information environment and quality are critical determinants of the accuracy of these predictions. ESG rating is an important non-financial indicator that enhances traditional financial data. Consequently, when making forecasts, analysts often consider ESG metrics. But the divergence in ratings from various agencies undermines the quality of information. As research indicates, discrepancies in ESG ratings represent uncertainty and risk, increasing the costs and complexity of information analysis [10]. This divergence can diminish the precision and trustworthiness of analysts' forecasts.

Liu et al. noted in their extended research that the adverse effects of ESG rating discrepancies are particularly evident in firms operating in poorer information environments [11]. Nonetheless, the impact can be softened by the efforts of seasoned and thorough analysts.

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4. What we can do in the face of ESG divergence

ESG rating divergence does not imply that measuring ESG performance is a futile exercise. However, it highlights that measuring ESG performance is challenging, and the use of ESG ratings and metrics must be carefully considered for each application.

In this section, we focus on giving investors as well as academics some usable methods to better structure their ESG investments or to produce more robust empirical academic results.

For investors, it makes sense for investors to pick the most suitable and critical one or a few of the many ESG indices [1]. And since this selection can be a very individualized process due to different investor preferences, we would like to provide some guidance on this. The following is a description of the evaluation systems of common rating companies in China and abroad. Investors can compare the evaluation indicators of each ESG rating company and select one or more ratings that match their preferences for indicators to guide their investments.

Table 1. Comparison of foreign ESG evaluation systems

	KLD	MSCI	Sustainalytics	Thomson Reuters	FTSE Russell	S&P Dow Jones	Vigeo eiris
Whether to consider product safety	√	√		√			√
Whether to consider financial indicators		√	√	√		√	√
Consideration of controversial incidents	√	√	√	√			√
Exclusion of sensitive industries	√	√			√		
Whether to standardize ratings		√			√	√	
Whether to consider company-initiated exposure	√				√		
Whether to communicate with the business		√	√		√		
Whether or not a scoring method is used	√	√	√	√		√	√
Whether to consider ESG risks and opportunities		√	√		√		√

"√"Indicates that the rating system takes this criterion into account

Table 2. Comparison of Chinese ESG evaluation systems

	SynTao	CASVI	Harvest Fund	IIGF	Huazheng	RKS	AMAC
Whether to consider product safety	√		√			√	√
Whether to consider financial indicators	√	√	√	√	√		√
Consideration of controversial incidents		√	√				
Exclusion of sensitive industries		√					
Whether to standardize ratings							
Whether to consider company-initiated exposure							√
Whether or not a scoring method is used	√		√			√	
Whether to consider ESG risks and opportunities			√	√	√	√	

"√"Indicates that the rating system takes this criterion into account

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Further, ESG divergence also challenges scholars' related academic research. Most scholars currently conduct empirical research by selecting a rating agency's ESG rating as a variable. For example, most existing ESG scholarship is based on KLD data. More, in China, where ESG research is just starting, we can see empirical articles using a wide variety of ESG ratings, including Wind, AMAC, Huazheng, and so on. These scholars may choose these ratings simply because they are easy to obtain, or the providing organization is more authoritative. However, in practice, these reasons are untenable and pose an empirical robustness risk to the results of these papers, as we can see that Berg shows that the divergence of the KLDs is very pronounced [12]. A better kind of approach is to use multiple ESG ratings in the research [13]. Several ratings compare and complement each other, which is reasonable when the intention is to measure "consensus ESG performance", as it is perceived by financial markets in which several ratings are used.

But many scholars have suggested that it is also less useful to consider one or more ESG metrics, which stems from the fact that this ESG divergence extends to specific ESG categories, which means that noisy measurements also challenge the study of ESG ratings such as carbon emissions or gender equality [2,12]. Using ESG scores across the board is not the solution. At best, they are a starting point. Researchers should scrutinize data providers carefully to avoid relying too heavily on one or a few single evaluators and focusing research on categories with inconsistent ratings.

In an empirical study by Berg, the divergence in ESG ratings is dissected into the contributions from scope, measurement, and weighting. At the same time, Berg's work illustrates that ESG ratings can be re-evaluated using a unified taxonomy applied to the data, offering a pathway for researchers and investors to harmonize various ratings and develop specific metrics for different categories [12]. While this approach mitigates issues related to weighting and scope, it does not fully address the challenges posed by measurement discrepancies. Therefore, it is advisable for researchers to rely on raw data that can be independently verified. If this is not possible, researchers should critically examine the data generation process and approach any data with opaque generation methods with caution. Additionally, researchers might consider collecting their own ESG data and sharing these datasets to enhance transparency and reliability.

Based on existing theoretical studies, Mao et al. investigate the impact of ESG performance on surplus management at different levels of ESG rating variance using a sample of Chinese listed companies from 2009 to 2021 [14]. First, they measure ESG performance of different firms as the average ranking of all rating agencies (ESG_ave1). The average ranking is generated by summing the firm's percentile rankings across ESG rating agencies and dividing by the number of rating agencies, which to some extent bypasses the differences in the quantiles and coverage of individual rating agencies, but still does not completely get rid of the divergence in specific areas. Therefore, Mao et al. use two different approaches to measure ESG performance in robustness testing. For the first method, for each rater year, the average of the Z-scores for each firm's ESG rating is calculated (ESG_ave2). Most importantly, in the second approach, they add two additional variables to the ratings-based approach to measure a firm's carbon emissions and its spending on corruption-related activities. For each year and rater, percentile rankings are computed for the firm's ESG rating, carbon emissions intensity, and excess ETC. These percentile rankings are then averaged to create a proxy variable for ESG performance (ESG_ave3). Based on this approach, the study reaches a nuanced conclusion that the link between ESG performance and surplus quality is not uniform but varies with differences in ESG ratings. Specifically, it is observed that when there are minimal differences in ESG ratings, the relationship between ESG and earnings quality aligns with stakeholder or ethical theories. Conversely, when there are significant disparities in ESG ratings, the relationship conforms to agency theory. This suggests that it is entirely possible for researchers to

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enhance the quality of their research by including variables they consider important in their ESG indicators, i.e., by developing their own category-specific indicators.

At the same time, in addition to the operation of the ESG rating indicator itself, researchers can also consider constructing an ESG uncertainty indicator and adding it to the robustness test part of their own empirical research, to see how and to what extent ESG uncertainty has brought about an impact on their own research results. The method of constructing the indicator can be referred to Avramov et al., which calculates the interquartile standard deviation of the same company under two different ratings, and repeats until the standard deviation of the two combinations of all the rating agencies is calculated, and then averages them to obtain the ESG uncertainty indicator [10].

In conclusion, it is important that investors and researchers have a clear understanding of the inconveniences that can be caused by divergent ESG ratings and actively take steps to mitigate them. At the same time, there is still no single methodology that is fully applicable and definitively valid in all situations, and it is important to pick and choose the one that fits the realities of one's investment and research. ESG ratings and metrics are an important foundation for the field of sustainable finance, and solutions to ESG disagreements deserve more in-depth research in the future.

5. Conclusion

In conclusion, disclosure of information has a significant impact on ESG rating, and the higher the level of corporate information disclosure is, the greater the autonomy of rating agencies in assessing ESG performance. Differences in the ability of rating agencies to deal with greenwashing also contribute to differences in ratings. In terms of impact, the deviation of ESG ratings increases the burden of information processing for investors, increasing information processing costs. According to Zou et al., the increase in fees is causing investors to have different investment strategies for ESG factors [8]. Risk premia are higher and bond spreads increase under ESG rating divergence. On the other hand, ESG rating divergence intensifies information asymmetry, and companies with poor information environments have a greater negative impact on ESG rating.

To deal with ESG disagreements, investors should carefully compare the rating agencies' evaluation ratio methods with their own investment preferences. Researchers should at least use multiple ratings that are highly correlated to complement each other. And use their methodology to reconcile the different ratings and invest in developing their own category-specific metrics, collecting ESG data themselves, and sharing datasets. At the same time, companies should also pay attention to information disclosure and create a good information environment. The uncertainty index is included in the robust test to see what impact ESG uncertainty brings to their conclusions. Finally, we must emphasize that no one method is suitable for all situations. It is important to choose the method that is suitable for your investment or research. This issue is also equally worthy of further research in the future.

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