

ESG Rating System in Sustainable Finance: Challenges and Suggestions for Improvement

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Abstract: As global attention to sustainable development intensifies, Environmental, Social, and Governance (ESG) criteria have become vital indicators for assessing corporate non-financial performance. Nonetheless, current ESG rating systems encounter several challenges, including lack of standardization, insufficient data transparency, and market dependence on rating outcomes, which impede their widespread application in investment decisions. This paper systematically reviews the construction logic and practical applications of existing ESG rating systems, providing an in-depth analysis of the disparities among major rating agencies concerning indicator selection, weight allocation, and data sources. By elucidating the impact of these disparities on rating accuracy and consistency, the paper proposes a series of improvement recommendations, such as the standardization of global rating criteria, enhancement of data transparency, and the utilization of emerging technologies to optimize the rating process. This research aims to offer theoretical foundations and practical insights for the enhancement of ESG rating systems, facilitating a more precise assessment of corporate sustainability performance by investors. The ultimate objective is to advance the global green economy transition and provide support to policymakers for further refinement of regulatory frameworks.

Keywords: Sustainable finance, ESG rating, Rating standards, Data transparency, Investment decisions.

1. Introduction

Environmental, Social, and Governance (ESG) serves as an umbrella term that encapsulates three fundamental aspects of corporate sustainability: environmental stewardship, social responsibility, and effective governance. ESG has emerged as a widely recognized index to evaluate an enterprise's capacity for sustainable management across the interconnected domains of environmental performance, social impact, and responsible governance practices.[1]. Nowadays, the ESG concept has developed into an important evaluation system of the non-financial performance of enterprises so as to judge the future development of enterprises. From a long-term perspective, investors should not only pay attention to the basic financial information, but also pay attention to the ESG information disclosure of enterprises in order to obtain long-term returns[2].

With the rapid development of the economy, scandals of enterprises in various countries are common. Enterprises are too eager for profit growth and ignore the negative impact on the environment and social development. It also shows that there are problems in the internal

management of enterprises, and there are hidden dangers of non-financial risks in their future development [3]. Therefore, the concept of ESG gradually formed, which evolved from social responsibility and is a practice of the concept of sustainable development. ESG advocates that enterprises should pay attention to non-financial data, effectively control non-financial risks, and then promote enterprises to achieve green development and sustainable development. In 2020, General Secretary Xi Jinping put forward the goal of "double carbon". In May 2021, China set up a leading group for carbon neutrality in peak carbon dioxide emissions, and launched the national carbon emission trading market in July of the same year. In addition, at the 2020 Entrepreneur Forum, General Secretary Xi Jinping encouraged to promotion of entrepreneurship and actively fulfill social responsibilities(citation). Such policies and ideas have laid a solid foundation for the development of ESG in China.

In recent years, investment in environment, society and governance (ESG) has increased rapidly. According to the data of Global Sustainable Investment Alliance (GSIA), by the end of 2020, the global ESG investment totaled about \$35.3 trillion. According to a survey of European fund professionals conducted by Jinda Asset Management Company in 2022, 88% of the respondents used the third-party ESG rating in their investment decisions[4]. Looking ahead, it is estimated that 92% of the respondents will further rely on ESG rating results, and believe that these ratings will play a more important role in product design, asset selection and ESG integration.[5]. With the rapid development of sustainable finance, the ESG rating system has become an important tool to measure the sustainability of enterprises. However, the existing ESG rating system faces many challenges in practical application. First, there are significant differences in rating standards, methods and weight settings among major rating agencies. Secondly, the transparency and accessibility of ESG data also adversely affect the effectiveness of the rating.

In order to solve these problems, this paper first sorts out the construction logic and application status of the existing ESG rating system, and then deeply discusses its shortcomings in data transparency, uniformity of rating standards and market dependence. Finally, based on the analysis, this paper puts forward a series of targeted improvement suggestions to provide a reference for the future development direction of ESG rating.

2. Research background and significance

2.1. Research background

In recent years, sustainable finance has incorporated ESG factors into financial decision-making to promote green and inclusive economic development. With the aggravation of global problems such as climate change and social inequality, the demand for sustainable investment in financial markets is growing rapidly [6]. Governments and international organizations promote the development of sustainable finance through policy guidance, standard-setting and regulatory measures, aiming to flow capital to projects and enterprises that have a positive impact on society and environment, thus supporting the realization of global sustainable development goals.

2.2. Research significance

As more and more non-financial enterprises are engaged in the financial industry, they realize excess returns through financial investment. However, the growth of the level of enterprise financialization undoubtedly intensifies the hollowing out of the industry and the instability of the financial market, and finally hinders the development of the real economy. In the process of socialist modernization, the ultimate goal of enterprises is not only to create revenue for shareholders, but also to keep pace with social development, maintain the sustainable development of enterprises, realize the green and low-carbon transformation of enterprises, take the initiative to assume corporate social responsibility,

and constantly improve their own internal management system. Judging from the current situation, there are many listed companies in the world, but the ESG rating is rare, and there is no officially recognized ESG rating mechanism[7].

ESG rating is of great necessity in sustainable finance, which is mainly reflected in evaluating the sustainable performance of enterprises, as the basis for investment decision-making, risk management, promoting the sustainable development of enterprises and promoting policies and supervision[8]. Moreover, ESG rating offers a standardized metric to assess the performance of companies in the realms of environmental stewardship, social responsibility, and governance practices. Serving as a relatively objective evaluation instrument for investors, ESG rating facilitates the identification of potential risks and challenges that enterprises may encounter across these dimensions. In turn, this fosters the adoption of more sustainable and resilient business practices by organizations, ultimately driving the transformation of the global economy towards a sustainable and inclusive paradigm. ESG rating thus plays a pivotal role in shaping investment decisions and promoting long-term value creation for businesses and societies worldwide..

2.3. Research Status

According to the necessity of the existing rating system and the urgency of improvement, today's ESG rating system is critical in sustainable finance, mainly because it solves the problem of information asymmetry, promotes responsible investment and helps investors identify environmental, social and governance risks [9]. In addition, ESG rating also helps enterprises meet increasingly stringent regulatory requirements. However, the existing system also faces some urgency for improvement. First of all, the standards of different rating agencies are inconsistent, which leads to great differences in rating results and reduces credibility. Secondly, the transparency and quality of enterprise data affect the accuracy of rating. Furthermore, the rating model may be too complicated and have regional or industry bias. The existing rating system often focuses on short-term performance and ignores long-term sustainability. In addition, with the change in market demand, the rating system needs to be constantly updated to meet the new sustainable development challenges.

Despite the rapid development of ESG in recent years, research shows that the differences in most ESG rating systems have not been significantly reduced. Wang Kai et al.[10]. The research shows that the correlation coefficient of ESG rating among major international rating agencies ranges from 0.38 to 0.71, with an average of 0.54. In contrast, the correlation coefficient of domestic rating agencies is low, ranging from 0.13 to 0.4, with an average of 0.26. These coefficients are significantly lower than the high correlation that usually exceeds 0.95 in credit rating. According to Berg et al[11]According to the research, 56% of the differences in ESG rating results are attributed to the differences in indicator measurement, 38% to the rating range and 6% to the differences in indicator weight. In addition, Lopez et al.[12]It is pointed out that non-standardized data is a factor leading to the difference of ESG rating. Berg et al.[11]The research shows that after Refinitiv updated its rating method, 13% of the sample ratings increased, and 87% of the sample ratings changed compared with historical data. These changes not only affect investment decisions, but also may change market expectations, highlighting the significant impact of the continuous evolution of ESG rating methods on the market.

3. The main challenges of the ESG rating system

3.1. Diversity and disunity of rating standards

3.1.1. There are significant differences in rating methods among major rating agencies.

ESG rating agencies show significant differences in methods due to their different research priorities and preferences[13]. These differences are reflected in several key aspects: 1. Indicator selection: There are significant differences in selecting indicators, especially in social pillars. 2. Index weight: institutions use different methods to determine the index weight. 3. Complex scoring rules: The scoring rules are relatively complex and lack unity. 4. Rating scale and definition: the similarity of rating scale and its meaning among institutions is low.

The inconsistency of these rating methods directly affects ESG rating results, affects the accuracy of ESG investment, disrupts market order, and weakens the confidence of companies and investors. Therefore, regulators began to review and prioritize solving these problems. Among them, the commonly used rating system is as follows:

(1) MSCI ESG Research

MSCI is one of the leading index compiling companies in the world, and its ESG research department provides a wide range of ESG ratings, covering thousands of companies around the world(citation). Its evaluation method is based on industry relative rating and risk exposure management. MSCI evaluates the enterprise's risk management ability on these issues based on industry-specific key ESG issues, and based on MSCI's industry relevance weighting, the rating results range from AAA to CCC. Its data sources depend on publicly disclosed information, news reports, regulatory documents and third-party data sources.

(2) Sustainalytics

The evaluation method of Sustainability is based on risk-driven rating and absolute rating, in which the rating of Sustainability is not based on peer comparison, but based on the risk management level of the enterprise itself, with the rating ranging from 0 to 100(citaiton). Its data source depends on company disclosure, government documents, media reports and NGO reports.

(3) RobecoSAM

RobecoSAM's assessment method is a long-term sustainability assessment, combined with a questionnaire survey and information disclosure. Ranked by the Dow Jones Sustainability Index (DJSI)(citation). The data source is based on the questionnaire voluntarily submitted by the company, combined with public information such as the annual report and sustainable development report. The rating results are usually used to compile DJSI, and the enterprise score is expressed as a percentage. The higher the score, the better the sustainability performance.

3.1.2. Applicability of ratings in different industries and its data problems

The first is industry specificity. There are significant differences in risks faced by different industries. The standardized ESG rating may not fully reflect these differences across industries, which may lead to the rating results of some industries being different from the actual situation. At the same time, under the same rating system, the index weights are different. The second is the difference between regions and markets. The regulations and regulatory environment in different markets will affect the ESG performance of enterprises. The third is the difference between data availability and transparency. ESG rating depends on high-quality data, and inconsistent data may lead to limited accuracy[14]. Most rating agencies mainly rely on public data, such as company ESG reports, supplemented by information from the media, government and non-governmental organizations. However, Refinitiv only uses the information disclosed by the company, and uses non-company information such as media reports for dispute analysis. According to official disclosure, MSCI and

Sustainalytics each have more than 1,000 data points, while ISS, SynTao Green Finance and Refinitiv have between 600 and 900 data points [15].

3.2. Market dependence and misuse of ESG rating

3.2.1. Risk of investors relying too much on rating results

The first is the risk of rating differences and accuracy. Different rating agencies use different standards, which may lead to inconsistent rating results for the same company in various agencies. If you only rely on a certain rating, you may misjudge the ESG performance of the enterprise. The second is an oversimplification. ESG rating simplifies complex environmental, social and governance factors. Focusing only on rating scores and ignoring specific indicators may lead to ignoring the risks or opportunities of enterprises in some key areas[16]. Secondly, there is the risk of market distortion. Collective reliance on the same rating may lead to market price distortion, excessive concentration of investment in high-rated companies, and increased market volatility and liquidity risk. Finally, it is short-sighted. Some ratings focus on short-term performance and ignore the long-term potential of enterprises. Relying on these ratings may lead to ignoring companies with long-term development potential.

3.2.2. Misleading rating and lack of transparency

Greenwashing- a phenomenon in ESG rating-that is, the lack of transparency of ESG rating means that an enterprise obtains a better rating or enhances its image by exaggerating or falsely publicizing its ESG performance. The risks are as follows: 1. Selective disclosure: enterprises only disclose favorable information, conceal or downplay negative content, and mislead rating agencies, thus obtaining a higher rating. 2. Exaggerated publicity: enterprises exaggerate their sustainable achievements through marketing means and ignore the negative impact of core business. 3. Compliance camouflage: The enterprise meets the minimum regulatory standards, but promotes it as a major ESG achievement, covering up the actual lack of performance. 4. Limitation of rating mechanism: Some rating systems rely on self-reported data of enterprises and lack independent verification, which provides space for greenwashing's behavior.

4. Suggestions for improving the ESG rating system

4.1. Standardized rating system

ESG rating agencies should formulate a unified rating standard and method, use quantitative indicators and publish the construction methods of indicators in time to ensure the consistency and comparability of rating results, which will help investors to compare ESG performance of different enterprises more accurately and make more informed investment decisions.

First of all, we should promote the unification of global ESG rating standards. At present, different rating agencies use different standards and methods, which leads to great differences in rating results. In order to solve this problem, it is necessary to establish a global unified ESG rating standard, so that the rating results are consistent and comparable in the global scope. In addition, industry-specific rating indicators and standards should be introduced to more accurately evaluate the performance of enterprises in different industries in ESG. For example, there are huge differences between the energy industry and the financial industry in terms of environmental impact and social responsibility, so corresponding rating standards should be formulated according to the characteristics of the industry.

At the same time, small-scale innovation should be carried out on the basis of the whole standardized rating system according to the national conditions of various places and countries, so as

to ensure that the recognized ESG rating system can adapt to local enterprises, so that enterprises in various places can effectively judge companies in combination with the ESG rating system, thus accelerating enterprises' understanding of the ESG rating system. Moreover, local governments or countries should also publicize the ESG rating system in combination with relevant institutions, excellent enterprises and forums, so as to truly unify the global ESG rating standards and specify the ESG standards of various countries.

4.2. Enhance the consistency and comparability of rating results

In order to further enhance the consistency and comparability of rating results, cooperation and information sharing among rating agencies are particularly important. By strengthening data sharing and methodological exchange between different institutions, the differences in rating results can be reduced. In addition, the development of cross-agency rating comparison tools can help investors and other stakeholders to compare the rating results of different institutions more conveniently, so as to make more informed decisions. This tool can not only improve the transparency of rating, but also promote the understanding and application of ESG information in the market.

Emerging technologies such as artificial intelligence and blockchain play an important role in the push for standardized ESG ratings. AI can improve data accuracy and transparency through automation and large-scale data processing. AI technology can analyze and process large amounts of ESG data from different sources, identifying patterns and trends within it, thereby reducing human bias and error. Through NLP, AI can also extract valuable ESG information from corporate reports, news and social media to further enrich and verify rating data.

Blockchain technology can significantly improve the transparency and credibility of ESG data through its tamper-proof distributed ledger. Blockchain can record a company's ESG activities and data, ensuring that the source of all information is traceable and cannot be tampered with. This transparent recording method allows all parties to have greater trust in the authenticity of the rating data and reduce rating disagreements caused by opaque or inconsistent data. In addition, the smart contract function of the blockchain can automatically execute and verify the sustainability commitments of enterprises, ensuring the objectivity and fairness of the rating basis.

4.3. Improve the transparency and data quality of rating system

ESG rating agencies should publicly disclose their rating process and data sources, and accept independent third-party audit and verification to increase the credibility of rating results, reduce information asymmetry, and enhance investors' trust in rating agencies. Publicly disclosing the corresponding data sources and rating process can make enterprises know the authenticity of the whole rating more intuitively, make the whole process more transparent, and make enterprises more acceptable to the rating results, thus reducing the negative impact caused by opaque rating process and other issues. In addition, for data collection, ESG rating agencies should increase their ability to collect and analyze ESG data to ensure the accuracy and comprehensiveness of rating results, so as to better evaluate the ESG performance of enterprises. Finally, the transparency and quality of data is the basis for the effective operation of ESG rating system. Therefore, it is very important to strengthen the ESG information disclosure requirements of enterprises. Establishing a unified data collection and reporting framework can ensure the consistency and comparability of information disclosed by enterprises, thus improving the reliability and transparency of data.

4.4. Views of different stakeholders on ESG ratings and suggestions for improvement

Investors generally believe that ESG ratings play an important role in investment decisions and can help them identify potential environmental, social and governance risks. However, they are concerned

about the credibility of ratings, mainly due to inconsistent standards among different rating agencies, which leads to large differences in rating results for the same company. At the same time, the introduction of investor attention into empirical analysis found that investor attention can positively regulate the impact of ESG performance on corporate total factor productivity [17].

Regulators are concerned about the impact of ESG ratings on the market and believe that it plays a positive role in promoting sustainable investment and meeting regulatory requirements. However, they are also aware of the problems in the current rating system, such as the lack of unified standards and insufficient data transparency. Regulators suggest that the supervision of rating agencies should be strengthened and the establishment of industry standards and best practices should be promoted to ensure the fairness and accuracy of ratings.

Rated companies generally express concern about the ESG rating process and believe that the rating results may have a significant impact on their reputation and market performance. They point out that rating agencies often rely on self-reported data from companies when making assessments, which may lead to information asymmetry and bias in rating results. The rated companies suggested that communication between rating agencies and enterprises should be strengthened to ensure the transparency and fairness of the rating process.

5. Discussion and conclusion

5.1. Conclusion

The ESG rating system is in a period of rapid development, but because the ESG rating standard has not yet been formed, different ESG rating agencies have different ratings for the same enterprise, and the risks caused by it have attracted academic attention. The ESG rating system will be a major trend in the future. For investors and enterprises, the performance of the investment object in environment, social responsibility and corporate governance can be judged according to the ESG performance of the enterprise, and the long-term development potential of the enterprise can be intuitively understood. Therefore, it is necessary to unify ESG rating, and the data and rating results in the process of ESG rating are also very important for the development and investment of enterprises. By analyzing various rating agencies, this paper finds that the existing ESG rating system has the following problems: the rating methods of large rating agencies are different, the rating standards are not uniform, the data collection and analysis capabilities are different, and the rating results and data collection process are opaque. Aiming at these problems, this paper puts forward some suggestions for improvement: 1. Optimize the rating system and build a standardized rating. 2. Improve the transparency of rating process and data collection, make the whole ESG rating result more convincing, and enhance the credibility of the ESG rating system in enterprises.

5.2. Research limitations and prospects for the future

The base of ESG rating agencies is huge, and the main ESG rating system is occupied by several major ESG rating agencies, so there are still many limitations in the future development of ESG rating, such as: (1) The data acquisition methods and emphases of major rating agencies are different. This will lead to different rating results, which will make the rating results of enterprises misunderstood. (2) It will take a long time to unify the rating system. Because the ESG rating of enterprises is mainly handled by major institutions, each large institution has a certain number of enterprise users, so there must be differences among institutions in the current rating unification, so the complete unification of the rating system needs the market and time to slowly precipitate. (3) Uncertainty of the market. As a hot spot in the future, the development of ESG rating mainly depends on the whole market. The more important enterprises pay to ESG, the better the development prospects of ESG, so the development of ESG rating also depends on the development of the market.

Nevertheless, the ESG rating system continues to hold significant potential for future development. This is mainly because the current world situation is under the background of greenhouse effect, and all countries in the world are paying attention to the field of double carbon, and ESG, as a rating system in the field of double carbon, has a good development trend. However, this also requires the major rating agencies to cooperate with each other to jointly promote the continuous optimization of the ESG rating system, so that it will be gradually updated in the future development process, so as to develop and develop into a world-class ESG rating system recognized by all major agencies.

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