

Assessing the Effectiveness and Limitations of ESG in Portfolio Investment

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Abstract. The purpose of this paper is to test the effectiveness of Environmental, Social and Governance (ESG) in portfolios, and explore the limitations of ESG use. Using risk and return indicators, and comparing the advantages and disadvantages of ESG rating under common credit rating systems, the effectiveness of investment products is discussed. Finally, it explores how ESG can be effective in achieving sustainable development. By reviewing the experimental ESG research and information in the past, this study shows that the use of ESG systems can enhance market stability and provide a more comprehensive risk rating for relevant stakeholders. However, under different regulators, the variability of standards stipulated for this evaluation system leads to the possibility of fraud.

Keywords: ESG; portfolio investment; sustainable development; CSR.

1. Introduction

Environmental, Social and Governance (ESG) assessment is becoming a key part of investment decision-making. ESG, as a standard to reveal the sustainable development of enterprises, was first put forward in the report "Who Cares Wins" of the United Nations in 2004, which brought together the CEOs of more than 50 financial institutions. Since then, many governments have formally incorporated Environmental, Social and Governance issues into their policies in the area of financial investment. In addition, the emergence of environmental and social issues such as global warming and Covid-19, which have led to a series of interlocking financial market changes, seems to indicate the need and feasibility of establishing a conceptual framework for ESG. However, with the spread of information about ESG, there are not many studies summarizing how ESG, as a new development investment strategy, affects portfolio investment. This paper focuses on the relevance of ESG scoring to portfolio at-risk investments. This study will discuss the influence of ESG on the effectiveness of portfolios from the aspects of return and risk, and compare ESG scoring with traditional scoring systems that provide financial risk. The risk and return differences of ESG scoring criteria on asset portfolios are discussed in terms of ideal health and in the context of ESG-related crisis risks. In the past, many companies took government requirements as the driving factor for implementing ESG, but now many companies are changing this driving factor to meet the needs of investors.

2. Compared with traditional finance rating systems

ESG is a new and immature rating system with many shortcomings compared to traditional rating standards, but it also complements and explains the shortcomings of traditional financial performance-based risk measurement systems. At present, several major third-party rating agencies are represented by Morgan Stanley Capital International, FTSE and Russell. ESG rating is an index to measure the sustainable development level of a company, based on a scale of 0-100 from environmental impact to corporate governance and other factors. In contrast, the traditional rating standards mentioned in this paper make Standard & Poor's, Moody's and Fitch Ratings a kind of credit rating, and measure investment products according to their financial performance.

First of all, ESG ranks the companies' non-financial information according to three factors, which are Environmental, Society and Governance. Its first advantage is that ESG provides investors with a more comprehensive investment disclosure and display perspective, which is different from the

traditional standards that focus on data disclosure and analysis. It quantifies corporate social responsibility, and adds this theory to risk ratings in a digital way, so as to compare and select sustainable enterprises. In addition, according to the statistics of assets of exchange-traded funds (ETFs) released by Statista Research Department, sustainable assets have grown to 378 billion US dollars, accounting for about one-third of the world's total investment assets. [1] This means that developing a more standardized framework and construction systems for this asset class has become an important part of measuring investment risk. However, the high demand for quantification has also led to problems with the accuracy of ESG scores and the variability of standards due to multiple scoring frameworks and accreditation bodies. In order to solve the problem of rating standardization, Hughes found that traditional ESG ratings rely heavily on manual disclosure of external information about companies to allocate weightings to the information. They hope to use artificial intelligence algorithms to quickly process current affairs information to adjust the weight of ratings, so as to standardize ESG more accurately. [2]

In addition to technical accuracy, some experts also put forward different opinions and questions about the necessity of a consistent and comparable unified ESG rating scale. Some scholars believe that the introduction of a representative standardized rating system is of indelible significance for promoting the realization and performance of an investment in sustainable development. For instance, a study on the influence of the accuracy of Environmental, Social and Governance ratings on sustainable investment under the CAPM model concludes that inaccurate Environmental, Social and Governance ratings will reduce investor 'motivation for green stocks, thus concluding that it is necessary to improve the consistency of Environmental, Social and Governance in distinguishing company stocks. At the same time, IFRS issued a statement in 2020, saying that it would cooperate with the IASB to launch a complete and clear set of standardized Environmental, Social and Governance standards and frameworks to enhance consistency and comparability of evaluation. Adams and Abhayawansa believe that this will lead to a restrictive practice on sustainability, and will not be able to accurately meet the needs of investors due to a lack of acceptance of academic and stakeholder views. This is due to the non-adoption of the views of academics and stakeholders.[3] Whether this conclusion will lead to the introduction of a standardized ESG rating system for ESG is a controversial issue, which requires more specific and extensive analysis before a conclusion can be reached.

Finally, as important evidence to help investors and government and other stakeholders make decisions, the proliferation of rating agencies for Environment, Social and Governance has brought many regulatory problems while promoting Environmental, Social and Governance. In 2023, in the updated 'Sustainability Disclosure Requirements (SDR) and Investment Labels' of FCA, the main focus is to standardize ESG scoring standards, suggesting that it is necessary to balance international consistency and compatibility with other systems to improve the regulatory framework of the scoring system.[4] For example, in the article 'The Consolidation of the ESG Rating Industry as an Enactment of Institutional Retrogression', it is proposed that there has been a wave of acquisition and integration of ESG rating agencies in recent years, and the market is gradually monopolized by a few major rating agencies, which may lead to initiatives between data providers and rating agencies.[5] In addition, Adams and Abhayawansa also put forward different considerations about the driving factors of sustainable investment and the scores of Environmental, Social and Governance of management companies and rating agencies, with the aim of obtaining Environment, Social and Governance certificates for companies to meet the sustainability requirements set by external institutions or organizations, instead of paying attention to green investment responsibilities spontaneously out of corporate social responsibility.[3] Therefore, it can be seen that some companies may engage in unconventional manipulation with ESG rating agencies for fraudulent reasons. In a nutshell, it is important that the relevant regulatory agencies strengthen disciplinary measures to reduce fraud, and at the same time supervise the whole society, so that ESG issues can be transformed from an external mandatory requirement into spontaneous corporate behaviour.

3. ESG and portfolio

3.1. Ideal normal situation

First of all, in 'Is Corporate Social Responsibility Investing in a free lunch? The relationship between ESG, tail risk, and upside potential of stocks before and during the COVID-19 crisis', the authors emphasize that ESG systems can be applied to investors' investment allocation and portfolio management, and it can also be applied to models of balancing risk and benefits. [4] In order to compare companies that take ESG risk as an independent variable, this study demonstrates how this affects the effectiveness of investment performance. Therefore, in the following research, we investigated the impact of ESG ratings on portfolios from the perspective of the risk and return of the portfolio.

While some experts believe that investing in ESG portfolios may have a negative impact on risk and return at the expense of investment performance, the opposite is true. As shown by several scholarly studies, sustainable investments tend to perform better than non-ESG portfolios and can reduce risk. Therefore, the ideal state of ESG without experiencing systemic risk is first discussed for study. For example, in a paper studying the influence of ESG exposures on the Chinese stock market (retail investors are the main investors), it was found that ESG systems can effectively reduce the special risk in portfolios by adjusting investors' preferences. In other words, individual investors choose financial products with low additional risk by obtaining non-financial information from ESG scores, thus reflecting the risk differentiation of portfolios. [6] This demonstrates that although Environmental, Social and Corporate companies reflect corporate social responsibility by increasing some of the company's costs, which increases the overall cost of the company, they still increase their goodwill. This action gives the public a positive image of the company and increases investors' preference for the company, thus reducing investment risk. However, due to the different types of investors in the stock market, the current research results are not universal. Secondly, by constructing a new ESG-marginal utility model, Pederson, etc. Quantify the investment portfolios, so as to determine the influence of different sustainable factors on investment. Through the construction of CAPM, two conclusions are drawn: firstly, the researchers found that excessive ESG cost consumption will lead to a decrease in income, so appropriate sacrifice of investment performance can maximize ESG income. The second point is that investors who hold portfolios with high social and environmental ratings will not immediately sell their shares when they are threatened by external risks. On the contrary, investors take a more positive attitude towards governance, resulting in higher returns for well-managed stocks. [7] In a word, socially responsible investment will not have a negative impact on returns, but proper corporate social responsibility investment will increase returns. It can be predicted that with the continuous development of ESG, the ESG standard will screen out those unsustainable companies, thus providing investors with the maximum choice for choosing a portfolio with lower risk. While at present, the returns to ESG scores are ambiguous, more quantitative criteria need to be established to balance sustainability spending with the stability of returns.

3.2. Market return under risks

As an external risk assessment, ESG is also necessary to check the return and risk degree of a portfolio in terms of external threats. Therefore, in order to intuitively review how the observed returns rate and risk rates of the investment markets have changed under many major or frequent events in the past, this article discusses three perspectives of ESG. The following comparison companies use ESG as an independent variable to examine how it affects the effectiveness of investment performance. Pastor and his partners put the ESG factor into a CAPM model and the model analysis shows that when green stocks are exposed to both ESG-related downside risks (climate risk) and stocks of non-ESD companies, the stocks of ESG companies have a more resilient performance which means that ESG disclosure allows for a higher risk tolerance of stocks and for a possible crisis to come It has a mitigating effect. [8] At the same time, some studies show that under

the stimulus of COVID-19, the univariate risk model of 10 countries' stocks is investigated, and it is concluded that under ESG standards, the trend of risk and return potential of sustainable stocks is moving from polarization to parallel, and this type of stock will attract investors who prefer to choose lower risk to choose their portfolios. However, this experiment does not consider the correlation between different assets, but it provides insights into portfolio investment in another statistical study. [9] In a study of 300 stocks listed on the Shenzhen and Shanghai stock markets, Broad Stock et al., also found that ESG can have a positive effect on portfolios and that ESG is effective in adapting to as well as mitigating financial risk [10]. In short, when faced with the negative effects of ESG risks, highly rated sustainable companies tend to have lower risks than other companies, and their stable resilience even leads to higher returns than low ESG companies.

4. Sustainable development

Environmental, Social and Governance ratings play a catalytic role in promoting the development of sustainable development investments, which can be played in two ways: speeding up the process of sustainable development and expanding investments with high Environmental, Social and Governance ratings and excellent financial performance. Strengthening the governance and monitoring of environment, society and enterprises can improve the interest and participation of all social groups in sustainable development.

First, to demonstrate whether there is a positive association between ESG and sustainable development investments: a study using ESG ratings as an indicator of whether sustainable development is good or not. Yang and his team regard Environmental, Social and Governance ratings as indicators of good sustainable development, and they find that by increasing investment in the green economy and green bonds, they could encourage the promotion of Environmental, Social and Governance practices. [11] On the other hand, this proves that ESG indicators have the responsibility of both detecting actual sustainability performance and promoting sustainability-related investments. This also conveys a direction to the investment market, attracting investors to expand their attention and consideration of ESG-rated companies and investment products. However, due to the uncertainty of Environmental, Social and Governance, the expansion of sustainable investments could lead to an increase in the cost of capital due to the instability of Environmental, Social and Governance forecasts themselves, thus making stakeholders skeptical about relevant investments, which may limit the overall development of sustainable investments. [12] Secondly, in terms of global green bond issuance, companies will issue green bonds to increase their influence and goodwill, which will attract more investors to choose this type of bond to obtain net income. [13] Not only that but in another study that addresses the financial constraints of ESG scores on companies from a regulator's perspective, the researcher examines the financial performance of Chinese listed companies during the epidemic and suggests that allocative efficiency can be achieved by enhancing the liquidity of companies' financial cash and capital allocation when regulating risk. [12] For example, according to data on A-share listed companies, listed companies have an increasing impact on their market value through their Environmental, Social and Governance performance in terms of operating ability. [14] Therefore, investment in sustainable investment development can be positively related to the internal financial performance of the company and the Environment, Social and Governance performance stimulated by external information and the financial performance. This phenomenon encourages more companies to try using Environment, Society, and Governance scores as a public disclosure tool to attract investors. Investors and investment institutions are encouraged to increase their interest and choice in this type of project. In summary, Environment, Social and Governance can have a positive impact on the company's financial performance and market value by attracting investors to expand investment in the green economy and practical business activities. This effect encourages investors and investment institutions to increase their interest in and choice of this type of sustainable development project.

Secondly, Environment, Social and Governance can be used to help expand the scope of investment in sustainable development. First of all, from the perspective of stakeholders, it can help companies obtain better financing channels. In Corporate Social Responsibility and Access to Finance, Cheng believes that stakeholders have played an effective role in increasing financing channels, mainly in two aspects: reducing agency costs and improving information transparency.[15] They found that companies in these two roles are less constrained by capital, which means that investors have higher expectations of CSR-prone companies and choose this type of investment product. This is also confirmed in another study analyzing the Chinese stock market, which goes beyond the usual CSR study and focuses more on the overall ESG link. Feng and his partners claim that the information disclosed by the ESG rating reduces the risk of a stock price crash, but they also point out that fraudulent behaviour of rating agencies could hurt stock prices.[16] This proves that the full disclosure of non-financial information in the Environment, Social and Governance rating system has brought a greater burden on the company's operating costs, and the use of Environment, Social and Governance ratings is specifically aimed at sensitive industries with high moral and environmental requirements, to improve the competitiveness of sensitive companies in this sector and implement the concept of sustainable development. In another study, it was discovered that the relationship between the firm's systematic risk and its ESG performance might be represented as an inverted u- In another study, it was discovered that the relationship between the firm's systematic risk and its ESG performance might be represented as an inverted u - shaped curve, showing the presence of a maximum value for ESG performance via the firm's systematic risk level. This discovery helps investors and regulators to participate in the management of systemic risks in a timely manner. [17] As a result, with the widespread dissemination of ESG rating systems, there is a high level of social acceptance and inclusion of highly rated companies.

5. Conclusion

As a consequence, this paper verifies the advantages of the ESG system through three aspects: 1) In a normal and healthy market, the risk of portfolio investment with high ESG evaluation is lower than that of non-ESG investment, but its lower volatility leads to lower returns. However, from a long-term point of view, even though ESG companies have lower returns than non-ESG companies because of their good positive regulation of external risk, especially in the face of systematic risk, strengthening the refinement of the ESG scoring system can make the market economies have stronger elastic feedback in the face of some unpredictable risks. 2) Environment, Social and Governance systems can help companies in internal financial performance. 3) Environmental, Social and Governance is a more comprehensive evaluation than traditional financial information disclosure, which can better help investment institutions to make judgments. Therefore, whether a consistent and comparable system is needed is a controversial topic because the regulatory system for Environmental, Social and Governance has not been completed. However, it can be predicted that in future investment markets, ESG will have a great impact on the evaluation of portfolio effectiveness, and with the increasing concern about external risks, ESG evaluation systems will become more reliable and flexible. Meanwhile, although the development and growth of sustainable investment have attracted worldwide attention in recent years, more expert research and discussion are still needed on the differences between industries and regions in this field, because ESG has not yet have more data and evidence of multi-regional diversity to support the development of this system.

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