

Rating Agreement: Machine Learning for Environmental, Social, and Governance Disclosure

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Abstract : The study evaluates the importance of non-financial disclosure practices for regulators, investors, businesses, and markets. It aims to create a sector-specific set of indicators for environmental, social, and governance (ESG) performances alternative to the ratings of the agencies. The existing literature extensively studies the implementation of ESG rating systems. Conversely, this study has a twofold outcome. Firstly, it should generalize incentive systems and governance policies for ESG and sustainable principles. Therefore, it should contribute to the EU Sustainable Finance Disclosure Regulation. Secondly, it concerns the market and the investors by highlighting successful sustainable investing. Indeed, the study contemplates the effect of ESG adoption practices on corporate value. The research explores the asset pricing angle in order to shed light on the fragmented argument on the finance of ESG. Investors may be misguided about the positive or negative effects of ESG on performances. The paper proposes a different method to evaluate ESG performances. By comparing the results of a traditional econometric approach (Lasso) with a machine learning algorithm (Random Forest), the study establishes a set of indicators for ESG performance. Therefore, the research also empirically contributes to the theoretical strands of literature regarding model selection and variable importance in a finance framework. The algorithms will spit out sector-specific indicators. This set of indicators defines an alternative to the compounded scores of ESG rating agencies and avoids the possible offsetting effect of scores. With this approach, the paper defines a sector-specific set of indicators to standardize ESG disclosure. Additionally, it tries to shed light on the absence of a clear understanding of the direction of the ESG effect on corporate value (the problem of endogeneity).

Keywords : ESG ratings, non-financial information, value of firms, sustainable finance

Conference Title : ICBF 2023 : International Conference on Banking and Finance

Conference Location : New York, United States

Conference Dates : July 06-07, 2023