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ESG Risks and Financial Performance. Analysis of Romanian-Listed Companies

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Abstract. *The term "sustainability" is often used interchangeably with the acronym ESG (Environmental, Social, Governance). This happens as investors trust ESG scores to provide an accurate measurement of a company's sustainability performance. The traditional approach for evaluating sustainability performance involves analysing the scores for a given company, for each of the 3 ESG pillars: Environmental, Social and Corporate Governance. Moreover, most studies show that these scores are positively correlated with financial performance. While this approach is rather straightforward, usually it is not exhaustive and fails to capture the risks behind a company's exposure to material ESG issues and its management. Therefore, this study proposes an approach based on material ESG risk, exposure and management scores. Particularly, this paper focuses on the sector-wide analysis of ESG risk scores and their correlation with financial performance, for Romanian-listed companies, using the most recent data from one of the largest ESG rating provider. The methods employed are data analysis & visualization and correlation analysis. The results reveal, on average, a year-on-year decrease of the ESG Risk Score for the selected companies, along with increased exposure to material ESG risks, yet better management of these risks. Interestingly, the results do not show a significant correlation between the selected ESG variables and financial performance, measured by ROE, ROA and Tobin's Q, though a significant positive correlation between the Exposure and Management scores and firm size, measured by Market Cap, is found. Although there are limitations to this paper, for example, related to sample size or timeframe, it provides valuable insights on both the sustainability performance of Romanian-listed companies and, more broadly, its relationship with financial performance from a regional perspective.*

Keywords: ESG, Sustainability, Financial performance, Accounting performance, Market performance, Correlation analysis

Introduction

Ever since the signing of the Paris Agreement in 2015, sustainability has become a global megatrend and, particularly, a central topic for researchers. The overall goal, which was initially defined more than 30 years ago, is to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. In Finance, this is supposed to be met through sustainable investing which are investment decisions that are based on ESG (Environmental, Social and Governance) information in addition to common financial figures (Silvola & Landau, 2021). The analysis of ESG aspects broadens the investment analysis and makes the investment decision more complex because the company's value creation will be based not only on financial information, but also non-financial information (Lev & Gu, 2016).

In this context, an increasing amount of money has been invested sustainably in the last years. Only in the fourth quarter of 2023, ESG fund assets rose by 8% globally and over the entirety

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of 2023, global ESG funds gathered 63 billion US Dollars. Despite this, the last quarter of 2023 saw negative net inflows into ESG funds for the first time in 3 years, especially in the US (Morningstar, 2024).

Moreover, legislation on sustainable financing is also increasing, especially in Europe, driven by ambitious regulatory initiatives from the European Commission. The most recent example of such initiative is the Corporate Sustainability Reporting Directive (CSRD) (EU, 2022), which entered into force on the 5th January 2023, and which obliges companies to report social and environmental information according to European Sustainability Reporting Standards (ESRS). Yet, around the world, legislation is not unified and companies' non-financial reporting practices vary greatly depending on sector and region/country.

With the aim to provide a somewhat standardized assessment of companies' sustainability practices to investors, ESG rating agencies have developed ESG scores, usually one score per each ESG pillar, each provider having their own methodology and approach (Huber et al., 2017).

The main pre-requisite to calculate an ESG score for a company is its sustainability report, disclosed yearly or quarterly. From this point of view, Romanian-listed companies have only recently begun to adhere to this disclosure practice, driven mainly by the Non-Financial Reporting Directive (NFRD) which was adopted in 2014, but entered into force only in 2018. Therefore, only starting with 2019, ESG rating providers could efficiently calculate ESG scores for Romanian-listed companies based on their sustainability reports.

The present study aims to analyse the ESG performance of 21 Romanian-listed companies from a sector perspective, using the most recent data from Morningstar Sustainalytics, one of the largest ESG rating providers and which has signed a partnership with the Bucharest Stock Exchange in 2020 to provide ESG scores and analysis. Additionally, this paper aims to examine the correlation between ESG performance and financial performance for the above-mentioned companies, from both an accounting performance perspective, using the Return-on-Assets (ROA) and Return-on-Equity (ROE) indicators, and market performance perspective, using Market Capitalization and Tobin's Q indicators.

The novelty of this paper stands in utilizing the most recent and comprehensive dataset of ESG and financial data, for a significant number of Romanian-listed companies, to determine the evolution of ESG performance and its relationship with financial performance at country level. Moreover, the analysis uses ESG Risk, exposure and management scores, as measures for ESG performance, an approach which, to the best of our knowledge, has not been taken so far at country & regional level, due to previous data availability limitations.

The rest of the paper is structured as follows: the second section represents the literature review, highlighting the relevant existing studies and their findings, the third section describes the data and methodology used, the fourth section highlights the results, the fifth section contains the discussion of the results, while the sixth section presents the conclusions, limitations and future study directions.

Literature review

Overview of ESG rating providers

Sustainability reports represent the companies' own assessment of ESG performance and this usually raises issues on the consistency and usefulness of the data. To assess the quality of these reports and to obtain quantifiable and action-leading data, investors rely on external ESG research and verification services, provided by ESG rating companies.

A study of (Li & Polychronopoulos, 2020) shows that ESG rating providers can be classified in 3 types, based on the data they provide:

1. Fundamental: which collect and aggregate publicly available data, without calculating and providing an ESG Score (e.g. Bloomberg)
2. Comprehensive: which utilize a combination of public and own-assessment data to eventually provide an ESG Score, based on their own methodology (Morningstar Sustainalytics, LSEG, MSCI etc.)
3. Specialist: providing in-depth analysis on one or two ESG segments (e.g. Carbon Disclosure Project)

Some of the leading companies in this domain are the following:

Morningstar Sustainalytics

Morningstar Sustainalytics provides ESG ratings as well as qualitative assessments of companies' ESG performance via its Global Access platform. It is the only ESG rating agency that calculates an ESG Risk Score, with values between 0 and 50, which measures the risk associated to companies' exposure to material ESG issues and their management (Garz et al., 2018). A value close to 0 represents a low ESG risk for a company, while a score close to 50 corresponds to a high ESG risk.

MSCI

The ESG ratings provided by MSCI are awarded on a scale, with a rating of CCC and B corresponding to a laggard ESG performance, BB, BBB and A representing an average ESG performance, while AA and AAA are awarded to leading ESG companies. Separate E, S and G score are calculated separately using a weighted-average method.

LSEG

London Stock Exchange Group (LSEG) provides ESG ratings on each of the 3 pillars (Environmental, Social and Corporate Governance) and can be also split into sub-scores according to ESG issues' specific themes. LSEG's ESG scores specifically measure, at the top level, a company's overall quality of management of ESG issues.

S&P Global ESG

S&P Global relies on both publicly available information and data from a Corporate Sustainability Assessment (CSA) to calculate their ESG scores, available also at pillar level.

ESG data divergence

Existing literature recognizes that multiple ESG rating providers might offer significantly different ESG scores (Chatterji et al., 2016), (Gibson Brandon et al., 2021), (Berg et al., 2022), (Christensen et al., 2022), depending on a variety of factors.

A first factor is related to firm-size. (Drempetic et al., 2020) find a significant positive correlation between the availability of ESG data and firm-size, concluding that the way in which ESG scores are constructed may give an advantage to larger, more resourceful companies.

A second factor is related to overall data quality, highlighted by many studies recently. Some authors point out that the lack of quality related to materiality, accuracy and reliability in ESG scores emerges from the companies' data collection and disclosure (Jonsdottir et al., 2022), (In et al., 2019), while others suggest that the sheer variety of reporting standards leads to

inconsistent reporting (Kotsantonis & Serafeim, 2019). The effect of companies' decision to remain or withdraw from Russia on ESG ratings has also recently been studied (Dincă et al., 2023), though authors find no influence of the former on the latter.

Finally, (Eccles & Stroehle, 2018) suggest that the social origins of the ESG rating agencies play an important role in the set-up of their ESG measurements.

The relationship between ESG performance and financial performance

One of the main reasons why more and more investors choose to integrate ESG ratings in their investment decisions is their relevance to financial performance. Many studies on the relationship between ESG performance and financial performance suggest a positive relationship, the meta-study of (Friede et al., 2015) reaching this conclusion after analysing more than 2000 articles on this topic.

Yet, recent studies do not confirm nor infirm this relationship. (Liang & Renneboog, 2020) conclude in a literature review on CSR and Sustainable Finance that "there is still no consensus about [whether] ESG-based investing helps or hurt performance". A comprehensive study from (Alves et al., 2023) of 16000+ stocks over 2 decades found that ESG investing did not systematically affect investment performance. At industry level, such as automotive (Dincă et al., 2022), industrials (Naimy et al., 2021) or tourism (Uyar et al., 2020), authors also find mixed evidence on the relationship between ESG and financial performance.

When it comes to the measures of financial performance used in the studies, (Margolis et al., 2009) conclude in their meta-analysis that the majority of studies used either accounting-based measures (Return on Assets, Return on Equity) or market-based measures (stock returns, market/book value ratio).

ESG performance from a regional perspective

Compared to Western European and Scandinavian companies, Central & Eastern European companies have rather low ESG ratings coverage, therefore relevant academic research on ESG performance is scarce due to information gap in ESG reporting (Czerwińska & Kaźmierkiewicz, 2015), (Zumente & Lāce, 2021). Evidence on the evolution and influence of ESG performance on financial performance for Romanian-listed companies, consequently, follows the same pattern, with the same underlying reasons.

Nevertheless, in recent years, ESG reporting and assessment have increased in the region which allowed studies to be conducted. A study from (ZUMENTE & LĀCE, 2022) finds no significant impact of ESG performance on corporate financial performance in a sample of companies from 10 CEE countries, while a study focused on Romanian companies presents the evolution of ESG scores from 2021 to 2022 (Diana Elena, 2023).

Methodology

A novel dataset comprised of ESG and financial data for companies listed at the Bucharest Stock Exchange has been gathered at the beginning of 2024. Due to limited data availability, the ESG measures have been retrieved only for the timeframe 2022 – 2023, 2022 being the first year for which we had obtained full ESG information for all analysed companies, while financial data only for the year 2022, due to the fact that, at the time of writing this paper, the 2023 annual financial reports for the analysed companies have not yet been disclosed. Financial data were obtained from the Morningstar Direct platform and ESG data from Morningstar Sustainalytics, one of the largest

ESG rating company. The most recent ESG data for Romanian-listed companies can also be found on the Bucharest Stock Exchange Research Hub website.

The dataset contains 21 Romanian-listed companies. ESG data consists of three variables measured and updated yearly for each company, namely ESG Risk Score, Exposure score and Management score, for the years 2022 and 2023. Financial data refers to ROA and ROE, as accounting performance measures, and Market Cap and Tobin's Q, as market performance measures, measured yearly for the year 2022.

According to Morningstar Sustainalytics, the ESG Risk Score is based on three pillars: corporate governance, material ESG issues, and idiosyncratic issues measured at company level. There are two dimensions to materiality: the first is the exposure to the specific ESG issues – provided separately as the Exposure score. A score closer to 0 is associated with a low exposure to ESG risks, while a score of 100 is associated with a higher exposure to these risks. The second dimension is the Management of the ESG risks, also provided separately as Management score on a scale from 0 to 100, which measures the company's ability to manage the ESG risks. A score closer to 0 is associated with a poor management of the company's ESG risks, while a score closer to 100 is associated with a good management of the risks.

The accounting performance measures – ROA and ROE – are based on the DuPont framework, expressed as percentages and are calculated as net income divided by end-of-year total assets and total common equity, respectively. As for market performance measures, the Market Capitalization for the year 2022 is calculated as an average of monthly Market Cap reported in the Morningstar Direct database, while Tobin's Q was obtained by dividing the resulting Market Cap by the company's total assets reported for 2022. These ratios have been chosen because they have extensively studied in previous literature on the relation between ESG and financial performance (Albertini, 2013), (Khan, 2022).

The first methods employed are data analysis & visualization on aggregated ESG data at sector-level, namely ESG Risk, Exposure and Management scores. A similar method has been employed by (Diana Elena, 2023) for ESG Refinitiv data on 10 Romanian-listed companies. The second method employed is a correlation analysis between the ESG and financial variables for the year 2022. (Baran et al., 2022) utilize the same method, but for Polish-listed companies in the energy sector.

Results and discussions

Descriptive statistics

Table 1 presents the descriptive statistics for each variable used in the analysis, grouped by year and type, ESG or financial. The purpose of this table is to effectively summarize the key characteristics of the dataset and to facilitate a better understanding of the data. Moreover, this represents the foundation for the analysis performed in the sub-sections that follow.

Table 1. Descriptive statistics

Variables	n	Mean	Std. Error	Median	Std. Dev.	Variance	Kurtosis	Skewness	Minimum	Maximum
ESG Risk Score 2022	21	22.46	1.11	22.5	5.10	26.06	0.83	0.92	15.4	35.8
Exposure 2022	21	40.54	2.68	39.4	12.28	150.78	-0.28	0.64	23	68.2
Management 2022	21	45.70	3.18	44.6	14.57	212.36	-0.13	0.34	23	78.6
ESG Risk Score 2023	21	22.12	1.20	22.4	5.48	30.06	0.50	0.80	14.7	35.8
Exposure 2023	21	40.76	2.64	39	12.11	146.71	-0.23	0.60	23	68.2
Management 2023	21	47.35	3.07	45.5	14.08	198.13	-0.32	0.08	23	76.2
ROA % 2022	21	8.62	1.57	5.73	7.18	51.54	-0.04	0.98	1.65	25.79
ROE % 2022	21	18.28	2.61	15.88	11.95	142.72	-1.22	0.40	2.11	41.4
Market Cap 2022 (Mil. RON)	21	4042.58	1525	1022.4	6988.41	48837918.33	5.82	2.40	62.61	27445.75
Tobin's Q 2022	21	0.90	0.18	0.71	0.80	0.64	1.50	1.30	0.12	3.12

Source: Authors' own calculation.

As illustrated in Table 1, on average, the Romanian-listed companies have performed well both in terms of ESG and financially in 2022 and 2023. This is shown by the mean and median ESG Risk Score below 25, the average and median Exposure and Management scores below 50 and the ROE and ROA significantly high in 2022, on average, 18.28% and 8.62% respectively.

The skewness of 0.92 and 0.80 for the ESG Risk Scores in 2022 and 2023, which are positive and relatively high, illustrate that the sample of 21 companies is comprised of mainly low-ESG-risk companies. Moreover, the skewness of the Exposure Score in 2022 and 2023 of 0.64 and 0.60 shows that companies in the sample have, in general, low exposure to ESG material issues, while the skewness of the Management scores in 2022 and 2023 shows the characteristics of a normal distribution for these variables.

On the other hand, the skewness and kurtosis of the Market Cap variable indicates that the sample is comprised mainly of companies with relatively low market value and a few highly capitalized companies.

Evolution of ESG measures

The following sub-section presents the evolution of the ESG indicators used in the analysis, namely the ESG Risk, Exposure and Management scores for the 21 Romanian-listed companies in the sample, between 2022 and 2023. Figure 1 illustrates the year-on-year changes for the analysed ESG indicator, by sector & total.

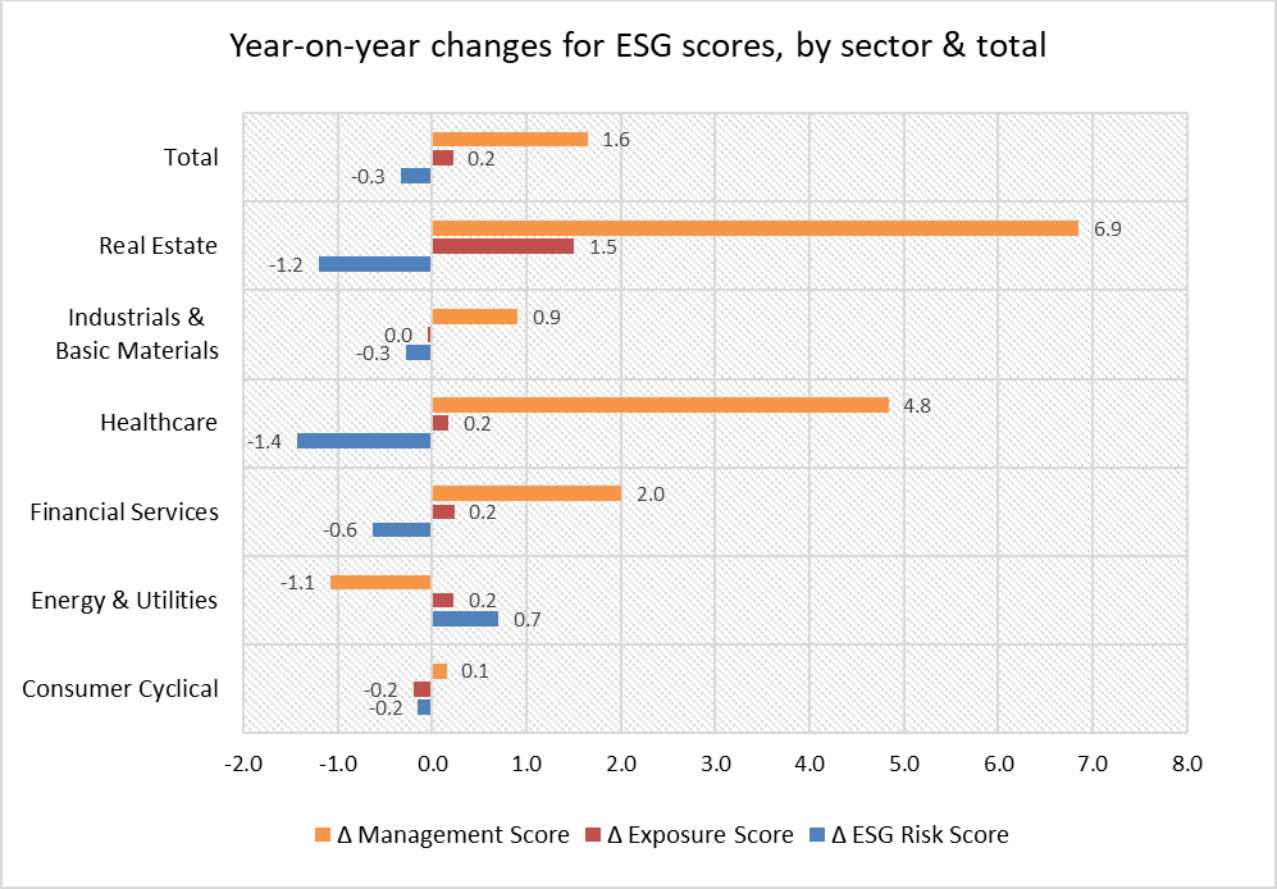

Figure 1. Year-on-year changes of ESG scores, by sector & total

Source: Authors' own calculation, Morningstar Sustainalytics.

Figure 1 illustrates that, on average, the ESG Risk Score for Romanian-listed companies has decreased in 2023, compared to 2022. This means that, according to the data and methodology used by Morningstar Sustainalytics, on average and for most sectors, Romanian-listed companies have decreased their ESG unmanaged risk, a risk which can potentially affect their economic value. Some of the factors behind this evolution can be related to increased European and local regulation, such as CSRD, and stakeholder and society pressure. From a two-dimensional perspective under which the ESG Risk Score is computed, this is mainly explained by a higher increase in the management of ESG risks compared to the increase in exposure to material ESG issues. The Energy & Utilities sector is the only exception - the ESG Risk Score has increased, at sector-level, in 2023 compared to 2022.

Analysing the changes in the Exposure score, in 2023 there was a slight increase in the vulnerability to ESG risks for the analysed companies, compared to 2022. This is particularly visible for the Real Estate sector, which had the highest increase in Exposure score, while the Consumer Cyclical and Basic Materials & Industrials sectors had a negligible decrease.

Lastly, the Management score for Romanian-listed companies has increased, on average, in 2023 compared to 2022, with a notable growth in the Real Estate and Healthcare sectors and a negative change in the Energy & Utilities sector. This shows that most Romanian-listed companies have taken more practical actions to manage their ESG risks.

From a sector perspective, interesting results come from Real Estate and Energy & Utilities. On average, companies in the Energy & Utilities sector have a year-on-year increase in ESG Risk and Exposure scores, potentially explained by increased risks related to emissions, waste and effluents. The Neptune Deep project, an important deep-water offshore gas field development project for both Romania and the companies involved, could increase the exposure to ESG material issues, such as environmental accidents, if not managed accordingly. The lower year-on-year management score indicates a decrease in initiatives from Romanian-listed companies in this sector to mitigate these risks, which might have potentially been focused on the consequences of the Russia-Ukraine war on international energy markets. Nevertheless, Romanian-listed companies from the Energy & Utilities sector, on average, still had the highest Management score from all Romanian companies (Appendix 1).

Regarding the Real Estate sector, we notice the highest year-on-year Exposure and Management increases. The increased Exposure could be explained by the companies' involvement in emissions-intensive activities, developing and investing in properties that are poorly equipped to face climate change risks. Yet, this sector had still the lowest Exposure score compared to other sectors (Appendix A). The increase in Management score could be due to companies' proactive approach to ESG risk that demonstrate commitment to managing these potential risks and adapting to a changing environment.

Correlation between ESG and accounting performance measures

The following sub-section presents the correlation between the analysed ESG and accounting performance measures, namely ROA and ROE. Figure 2 displays the Pearson Correlation Coefficients, while Figure 3 shows the statistical significance of these coefficients.

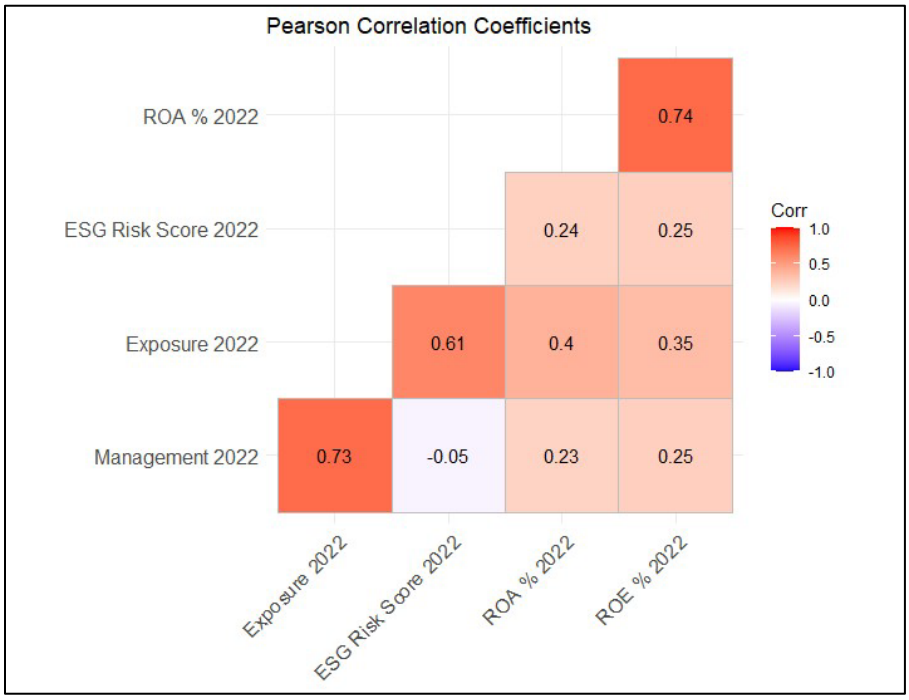

Figure 2. Pearson Correlation Coefficients between ESG and accounting performance variables
Source: Authors' own calculation, Morningstar Sustainalytics.

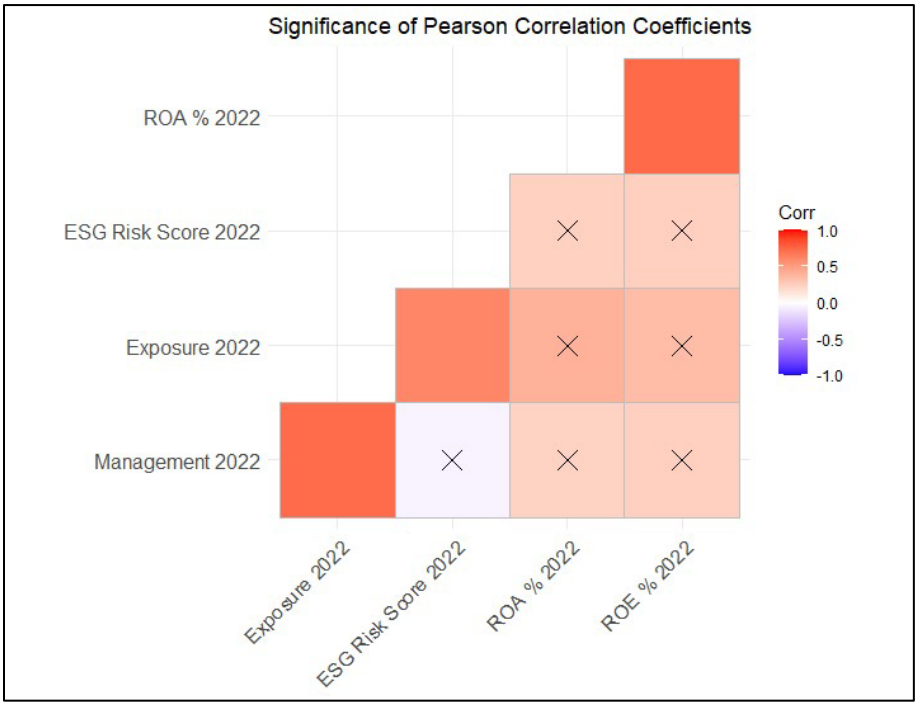

Figure 3. Significance of Pearson Correlation Coefficients between ESG and accounting performance variables

Source: Authors' own calculation, Morningstar Sustainalytics.

The above figures show that the correlation coefficients between financial performance, measured by ROE and ROA, and ESG risk and performance, measured by ESG Risk Score, Exposure and Management, although positive, were not statistically significant. Moreover, even though there was a significant positive correlation between Exposure and ESG Risk scores, the analysed data suggests that there was no significant correlation between the ESG Risk Score and Management of the ESG risks. These results are in line with the most recent literature.

Correlation between ESG and market performance measures

Similar to the previous sub-section, Figure 4 displays the Pearson Correlation Coefficients, while Figure 5 shows the statistical significance of these coefficients.

Figure 4. Pearson Correlation Coefficients between ESG and market performance variables

Source: Authors' own calculation, Morningstar Sustainalytics.

Figure 5. Significance of Pearson Correlation Coefficients between ESG and market performance variables

Source: Authors' own calculation, Morningstar Sustainalytics.

The above figures show that the correlation between Tobin's Q and ESG variables was not statistically significant. Interestingly, the correlation coefficients between Market Cap and Exposure and Management scores were positive and statistically significant, explained by existing literature by the fact that larger firms have the resources to disclose more ESG information, which might lead to a bias (Doyle, 2018). This implies that large firms had a higher exposure to material ESG issues and risks, but, at the same time, managed this associated exposure in good manner.

Conclusion

Investors globally are paying more and more attention to a company's sustainability performance, driven mainly by regulation and a sense of risk mitigation. Romanian-listed companies also follow this worldwide trend, which intensified in the last years, and disclose more and more non-financial information. This, subsequently, lead to an increase in ESG data availability in recent years, which is the basis of this study's analysis.

This paper analyses the evolution of ESG performance for 21 Romanian-listed companies, at sector level, and its correlation with financial performance. A novel dataset is used in the analysis, retrieved from Morningstar Sustainalytics, one of the leading ESG rating providers worldwide. Instead of using traditional E, S and G scores for measuring ESG performance, which is usually employed by previous studies, this study has a new approach - that of using ESG Risk, exposure and management scores. Until now, such considerations have not been carried out at country and regional level.

Firstly, an average decrease in ESG Risk Score and increase in Management score are found, year-on-year, for most of the analysed sectors. The Real Estate and Energy & Utilities sectors stand out with major year-on-year changes, explained by increased exposure to material ESG issues, especially related to the environment, but with different approaches to managing these risks at sector-level.

Secondly, this study does not find a significant correlation between ESG performance and financial performance. A significant positive correlation is found between ESG performance measured by Exposure and Management scores and Market Cap, which confirms the conclusions of some studies, that a bias might exist between firm size ESG scores.

As future research directions, the existing analysis can be improved by using a larger sample, for a longer timeframe and with data from different ESG rating providers, if available. Data from Central & Eastern European listed companies can be added as well. More advanced methods can then be applied, such as panel regression analysis, structural equation models or time-series modelling.

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Appendix

Appendix 1

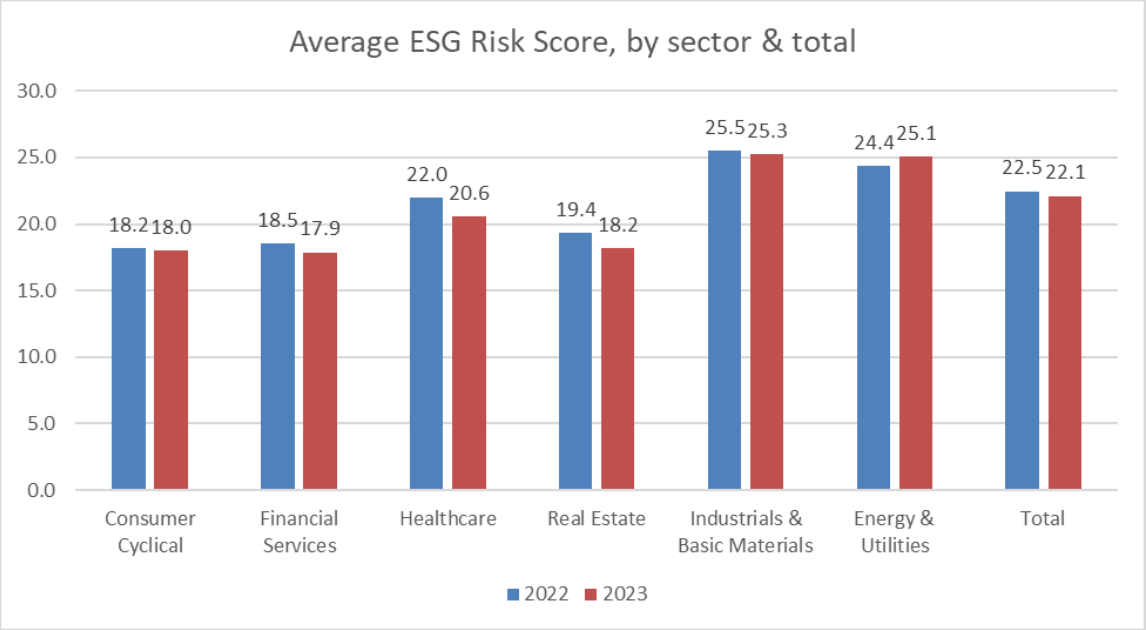

Figure 1. Evolution of the average ESG Risk Score by sector & total
Source: Authors' own calculation, Morningstar Sustainalytics.

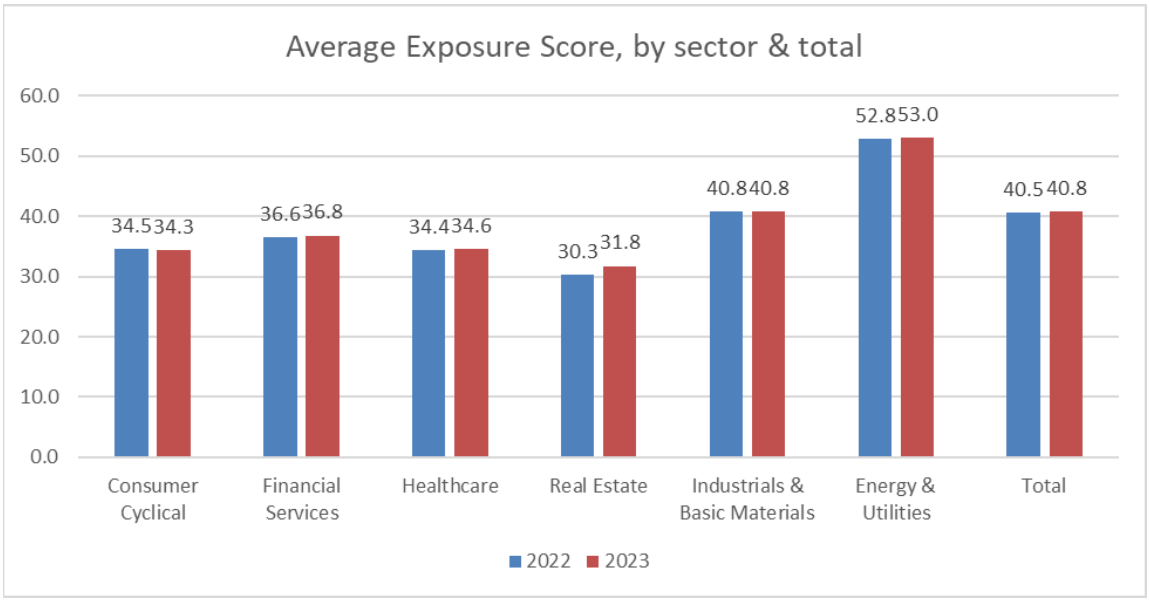

Figure 2. Evolution of the average Exposure Score by sector & total
Source: Authors' own calculation, Morningstar Sustainalytics.

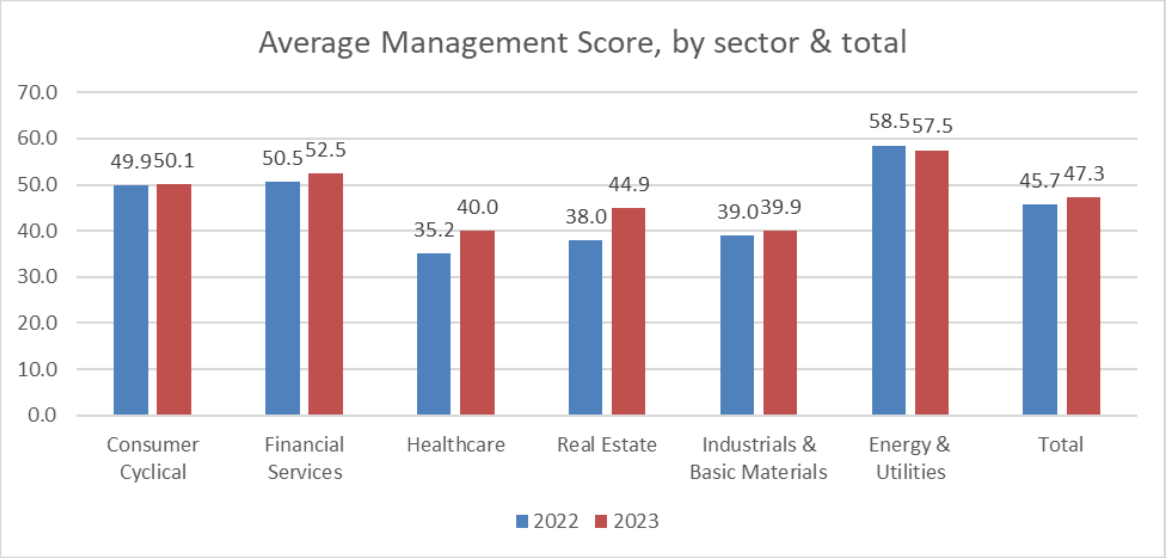

Figure 3. Evolution of the average Management Score by sector & total
Source: Authors' own calculation, Morningstar Sustainalytics.