***Sofija Turjak***
*Josip Juraj Strossmayer University of Osijek Faculty of Economics and Business in Osijek 31000 Osijek, Croatia sofija.turjak@efos.hr*

***Ivan Kristek***
*Josip Juraj Strossmayer University of Osijek Faculty of Economics and Business in Osijek 31000 Osijek, Croatia ivan.kristek@efos.hr*

***JEL: Q50, Q56***
***Original scientific article***
***https://doi.org/10.51680/ev.36.2.8***

*Received: June 29, 2023*
*Revision received: July 26, 2023*
*Accepted for publishing: August 05, 2023*



# MARKET CAPITALISATION AND ENVIRONMENTAL, SOCIAL AND GOVERNANCE RATINGS IN THE EUROPEAN UNION

**Abstract**

**Purpose:** The paper aims to study the relationship between market capitalisation and environmental, social and governance (ESG) ratings of the companies in the European Union (EU).

**Methodology:** The authors analysed a sample of 1,456 companies over five years, from 2016 to 2020. The ESG combined score and market capitalisation of the companies were observed. Spearman's correlation coefficient was used to determine the relationship between the observed variables. The companies from twenty-one EU Member States have been analysed due to data availability.

**Results:** The results showed that a negative correlation is statistically significant, which confirms the results obtained in previous research. Since the ESG scores are measured on a scale where a higher value means a lower rating, the results can be interpreted as valid, and they show that higher ESG ratings positively correlate with the company's market capitalisation.

**Conclusion:** According to the analysis results, the correlation between ESG ratings and market capitalisation has improved over the years. In the first two years of the analysis, the correlation was weak, while it became stronger in the last three years of analysis. It is crucial for companies to understand this information since it gives them recommendations for future actions. ESG reporting can improve their market position. Since ESG reporting is still voluntary, companies which incorporate ESG reporting into their business strategy can become market leaders.

**Keywords:** ESG ratings, market capitalisation, the European Union

## 1. Introduction

Climate change and global warming have been at the centre of studies among professionals and scientists across different industries. A rapid temperature increase has devastating consequences for the world itself; therefore, studies are trying to find the best solution to slow down global warming. According to Godet (2020), the EU developed the first internal policies to respond to the problem of

climate change in the 1980s. Since the 1980s, the EU has been the leader in addressing the issue of climate change, implementing more climate policies than any other national or supranational entity. Sustainability has emerged as a solution to the problems mentioned above. The importance of sustainability as a solution is underscored by the United Nations (UN). The UN proposed 17 Sustainable Development Goals (SDGs) as a solution to combat climate change, global warming, and poverty. Over the years, different proposals have emerged in response to climate change and global warming. Since 2014, the EU has been developing ESG ratings within EU Directive 2014/95/EU. This Directive is known as the "Non-Financial Reporting Directive" (NFRD) and it was adopted on 22 October 2014. The NFRD requires large public-interest companies with more than 500 employees to disclose certain non-financial information regarding environmental concerns, social and employee-related aspects, respect for human rights, anti-corruption, and bribery. The purpose of these disclosures is to provide stakeholders with a greater understanding of the governance procedures of a corporation, as well as the influence that the organisation has on society and the environment. As the EU was the first to propose internal policies in the fight against climate change, it has also acknowledged that updating and improving the current framework for non-financial reporting is crucial. As a result, in 2021, the European Commission proposed a new Corporate Sustainability Reporting Directive (CSRD). The CSRD has replaced the NFRD and extended the scope and specifications for ESG reporting in the EU.

Since the CSRD requires only large public-interest companies to report on ESG, the authors study the relationship between market capitalisation of the companies and their ESG ratings. Based on the conducted analysis, the authors propose recommendations for further research. Market capitalisation represents public market valuation of a company and provides an estimation of its size and worth in the eyes of investors. The relationship between a company's ESG ratings and its market capitalisation is complex and can be influenced by various factors. Factors that can influence this relationship are investor perception, access to capital, brand reputation and customer preference, risk management and resilience, regulatory compliance, and stakeholder expectations. These factors can influence ESG ratings and, therefore, can influence market capitalisation of the companies. Companies with better ESG ratings may be more appealing to institutional investors, impact investors, and socially responsible investment funds that take ESG considerations into account when making investment choices. Increased investor demand and interest may make it easier for businesses to get financing, opening doors for development and potential increases in market capitalisation.

## 2. Theoretical background

In the EU, ESG reporting constantly changes as part of broader initiatives to support sustainable finance and corporate responsibility. The authors describe the following events that have shaped ESG reporting in the EU. Except for the CSRD that was introduced in 2021, the EU Taxonomy Regulation is a classification system for figuring out whether economic activities are environmentally sustainable, and it has been in operation since July 2021. It establishes standards for recognising and disclosing sustainable actions, assisting businesses and investors in integrating their processes with environmental goals. By offering a framework for disclosing and assessing the environmental sustainability of assets, the taxonomy will impact ESG reporting. In addition, the Sustainable Finance Disclosure Regulation (SFDR), which has been applicable since March 2021, imposes transparency and disclosure obligations for financial market participants and advisors regarding their ESG integration and the sustainability features of financial products. It guarantees investors access to consistent ESG data, encouraging comparability and avoiding greenwashing. Moreover, the European Single Access Point (ESAP) is a future digital portal that will be accessible across the entire EU and that is designed to simplify access to financial and sustainability data of companies listed on EU marketplaces. It will act as a central platform for analysing and accessing ESG data, making it easier for stakeholders, analysts, and investors to assess how sustainably a company is performing.

Two important frameworks are globally known as the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI). Both the GRI and the SASB are well-known ESG reporting frameworks. To improve uniformity and comparability in ESG disclosures, the EU has brought its reporting requirements in line with

these global standards. The initiatives proposed in the EU show that the EU is improving sustainable finance and ESG reporting. The EU seeks to facilitate the shift to a more sustainable economy by unifying reporting standards, enhancing transparency, and incorporating sustainability factors into financial decision-making. ESG ratings are essential for companies and investors, but there are challenges in understanding what they mean. Different institutions provide data on ESG ratings for companies. Since the companies have not been required to report on ESG, they have many opportunities.

Eccles and Viviers (2011) reviewed 190 academic papers from 1975 to 2009 and concluded that ESG governance was very important for stakeholders. In recent years, ESG governance has been an important factor to investors, and a greater ESG rating benefits investors. Tarmuji et al. (2016) concluded that ESG ratings have a positive and significant impact on a company's transformation toward sustainability. The company's responsibility towards the environment and society is generated from ESG ratings. A higher ESG rating indicates a company's commitment and a positive result in relation to climate change mitigation.

Ermakova and Finogenova (2023) argue that ESG ratings should be more industry-specific to assess companies' ESG performance accurately. Dorfleitner (2015) found a lack of convergence in ESG measurement concepts, and that stakeholders should critically evaluate the validity of particular ESG scoring models. Street (2020) examined the MSCI ESG ratings of US companies, and Fortune 500 Global companies domiciled in Europe, finding differences in ESG ratings across industries and regions. Billio et al. (2021) analysed ESG rating criteria used by prominent agencies and found a lack of commonality in the definition of ESG characteristics, attributes, and standards, leading to disagreement among rating agencies and affecting sustainable investments. Overall, the papers suggest that ESG ratings are important for companies and investors, but there is a need for more industry-specific and standardised approaches to assess ESG performance accurately.

ESG ratings have become important for companies, stakeholders, investors, and buyers as they provide insights into a company's sustainability practices, risk management capabilities, reputation, access to capital, and ability to meet stakeholder expectations. Integrating ESG considerations into business strategies can contribute to long-term value creation, resilience, and competitiveness in today's evolving business landscape.

### 2.1. Environmental ratings

According to Jasch (2006), stakeholders have shown greater interest in the environmental performance of the firms due to greenhouse gas (GHG) emissions and their negative impact on the environment. As a result of negative consequences that GHG emitting companies have, they should reduce their emissions by employing best environmental practices.

McWilliams and Siegel (2000) showed that good environmental performance can be associated with the positive financial performance of the company. In addition, King and Lenox (2001) studied the effects of decreasing the inputs in the production process and energy. If a company can reduce its use, it improves profitability and decreases production costs.

Lakoff (2010) argues that the way society frames environmental issues in the media can shape public opinion and policy decisions. Fransson and Gärling (1999) suggested that increasing environmental concern and knowledge can lead to more environmentally responsible behaviour. Akdoğan and Hicyorulmaz (2015), as well as Şenol and Özçelik (2012), argued that businesses have a responsibility to protect the environment and that environmental accounting can help them do so. Akdoğan and Hicyorulmaz (2015) also noted that environmental issues threaten the sustainability of ecological balance, and that national and international regulations are needed to address them. Overall, environmental ratings are important for shaping public opinion, promoting environmentally responsible behaviour, and helping businesses fulfil their environmental responsibilities.

### 2.2. Social ratings

Social ratings are important as they enable stakeholders to assess a company's social performance, support responsible investment decisions, manage social risks, enhance brand reputation, attract talent, and contribute to sustainable development. They provide a comprehensive view of a company's approach to social responsibility and its impact on various stakeholders and society as a whole.

Carroll (1991) argued that companies have a responsibility to society beyond just maximising

shareholder wealth, and this has become increasingly clear with the creation of regulatory agencies. Bird et al. (2007) found that the market values companies that engage in positive corporate social responsibility (CSR) activities, particularly in the areas of diversity, environmental protection, and employee relations. Şerban (2013) highlighted the importance of CSR for companies in Romania, as it can lead to increased involvement in the community and support for economic development. CSR can benefit companies financially and socially, making social ratings an important consideration for companies. Social ratings of companies are important for various reasons. Nilsson and Strand (2015) found that social CSR ratings are value-relevant and associated with lower market values, while Attig et al. (2013) found that credit rating agencies tend to award relatively high ratings to firms with good social performance. Cellier and Chollet (2016) showed that announcement of social ratings generates a strong positive stock market reaction regardless of whether the rating is good or bad compared to the Fortune Reputation Survey and the Socrates Social Rating Database, and found that both databases are useful for evaluating corporate social performance. Finally, Chatterji et al. (2009) examined the accuracy of Kinder, Lydenberg, Domini Research & Analytics (KLD) ratings and found that KLD "concern" ratings are fairly good summaries of past environmental performance, while KLD environmental strengths do not accurately predict pollution levels or compliance violations. Overall, the papers suggest that social ratings of companies are important for investors, credit rating agencies, and other stakeholders interested in evaluating a company's social performance.

### *2.3. Governance ratings*

Governance ratings in ESG are important as they promote transparency, accountability, and risk management within companies. They inspire investor confidence, support long-term performance, protect stakeholders, ensure regulatory compliance, and contribute to a company's reputation and brand value. Strong governance practices are crucial to sustainable and responsible business operations.

Lysandrou and Parker (2012) argued that the importance of these ratings lies in providing institutional investors with information that accurately summarises corporate loyalty to shareholders rather than accurately predicting corporate performance. Spellman and Watson (2009) found that corporate governance ratings, specifically those provided by Governance Metrics International (GMI), are statistically significantly related to corporate characteristics, prior performance, and future returns. This suggests that GMI ratings may be of significant relevance/value for investor decision-making. However, Daines et al. (2010) found that commercially available corporate governance rankings do not provide useful information for shareholders and do not predict governance-related outcomes with the precision or strength necessary to support the bold claims made by most of these firms. Holm et al. (2014) suggest that rating providers can improve the screening of companies according to governance quality by selecting relevant attributes in an intelligent way, but it seems questionable that weighting, aggregation, and classification of corporate governance attributes considerably improve discrimination according to governance quality.

### *2.4. Market capitalisation*

Market capitalisation serves as a significant indicator of a company's attractiveness to investors. In the EU, companies with higher market capitalisation often have greater access to capital and resources, enabling them to invest in sustainable initiatives and innovations. This creates a positive feedback loop, as companies that prioritise ESG factors tend to attract investors seeking sustainable investments. As a result, market capitalisation and ESG ratings are interconnected, with sustainable practices contributing to increased market value. Ugwuanyi (2012) argues that an appropriate capital structure is important for maximising shareholder wealth and increasing the market value of companies. Stoica (2002) emphasises the role of the capital market in contributing to economic development. Reinganum (1999) highlights the importance of market capitalisation in portfolio management, as it is one of the most important determinants of portfolio returns. Finally, Frank and Goyal (2007) examine the factors that are reliably important in capital structure decisions, finding that the market-to-book assets ratio, tangibility, profits, log of assets, and expected inflation are all important factors in explaining market leverage. Overall, the papers suggest that market capitalisation is important for maximising shareholder wealth, contributing to economic development, and making informed portfolio management decisions.

According to Boffo and Patalano (2020), the rate of ESG rating availability is significantly higher when measured by market capitalisation. Their study indicates a trend in favour of larger market capi-

talisation companies. The trend is recognised as improved investment interest in companies with larger market capitalisation since they have ESG scores, and, therefore, companies with smaller market capitalisation are facing difficulties in resource access to sustainability implementation and reporting. In addition, as the availability of ESG ratings has increased, certain tendencies have emerged. According to Boffo and Patalano (2020), market capitalisation of ESG-rated companies in the EU reached 89% in 2019, whereas the number of companies covered was only 10%. While there are multiple explanations relating to the availability of data, increased resource allocation, and investor coverage, the absence of ESG scoring imposes significant limitations on smaller capitalisation companies, which drift further from the investment considerations of investors seeking sustainable investments.

## 3. Methodology

The authors used secondary data on the ESG ratings of the companies in the EU provided by Refinitiv. Yearly data from 2016 until 2020 for 1,457 companies were taken into consideration. Due to the process of leaving the EU, the companies from the United Kingdom were excluded from the sample. In addition, companies from Bulgaria, Croatia, Estonia, Latvia, Lithuania, and Slovakia were not analysed since there were no reported ESG ratings from companies from these countries. The authors analysed 1,456 companies in 2020, 1,071 companies in 2019, 944 companies in 2018, 633 companies in 2017, and 554 companies in 2016. The different number of companies analysed is the result of missing values in market capitalisation or ESG combined score ratings.

To analyse the relationship between the ESG combined score and market capitalisation of companies the authors used Spearman's rank correlation since the ESG combined score was measured on an ordinal scale from 1 to 12, where one represents an A+ rating, and twelve represents a D- rating. On the other hand, market capitalisation was measured in millions of dollars. According to Hauke and Kossowski (2011), Spearman's rank correlation, also known as Spearman's rho, is a non-parametric statistical method used to measure the strength and direction of the monotonic relationship between two variables. It assesses the association between two sets of ranked data and does not assume a linear relationship between the variables. Spearman's rank correlation is commonly used when data are measured on an ordinal or ranked scale. According to Schober et al. (2018), if the correlation coefficient is between 0.00 and 0.10, the correlation is negligible. If the coefficient is between 0.10 and 0.39, it is weak, and when the coefficient is between 0.40 and 0.69, it is moderate. A strong correlation is between 0.70 and 0.89. A very strong correlation is between 0.90 and 1.00. To conduct the analysis, the authors used IBM SPSS 25 software.

The ESG combined score, issued by Refinitiv (2022), is an overall score based on the reported information in ESG pillars with an ESG controversies overlay. According to Refinitiv (2022), ESG controversies measure a company's exposure to ESG controversies and negative events reflected in global media.

Descriptive statistics are given in Table 1, showing information about the number of analysed companies (N), minimum and maximum values, and means.

***Table 1 Descriptive statistics of the analysed sample***

| | Market capitalisation | | | | ESG combined score | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **N** | **Minimum** | **Maximum** | **Mean** | **N** | **Minimum** | **Maximum** | **Mean** |
| 2020 | 1,456 | 2 | 269,582 | 5,755.20 | 1,457 | 1 | 12 | 6.56 |
| 2019 | 1,071 | 2 | 269,582 | 7,479.17 | 1,074 | 1 | 12 | 6.23 |
| 2018 | 944 | 2 | 269,582 | 8,219.48 | 945 | 2 | 12 | 6.18 |
| 2017 | 633 | 2 | 269,582 | 11,464.21 | 634 | 1 | 12 | 5.82 |
| 2016 | 554 | 2 | 269,582 | 12,497.29 | 555 | 2 | 12 | 6.02 |

*Source: Authors' own calculation*

Based on descriptive statistics, the number of companies that have ESG ratings has increased in the observed time period. Even though minimum and maximum values of market capitalisation have been the same during all years, the mean of market capitalisation has decreased over the years. A decrease in the mean of market capitalisation can be justified by an increase in the number of companies that have been analysed throughout the observed time period. The ESG combined score shows a slight increase in the mean score over the years, but it represents a negative trend since the increased mean represents a lower ESG combined score of the companies.

## 4. Results

The authors used Spearman's correlation to test the relationship between the ESG combined score and market capitalisation of the companies. The results are shown in Table 2.

***Table 2 Spearman's correlation test results***

| 2020<br>2019 | | | ESG combined score | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2018 | 2017 | 2016 | | |
| Market capitalisation | 2020 | ρ | -.544** | | | | |
| | | N | 1,456 | | | | |
| | 2019 | ρ | | -.440** | | | |
| | | N | | 1,071 | | | |
| | 2018 | ρ | | | -.436** | | |
| | | N | | | 944 | | |
| | 2017 | ρ | | | | -.348** | |
| | | N | | | | 633 | |
| | 2016 | ρ | | | | | -.344** |
| | | N | | | | | 554 |

Note: **Correlation is significant at the 0.01 level

*Source: Authors' own calculation*

Based on the conducted correlation analysis, Spearman's Rho Coefficient (ρ) shows a statistically significant relationship between market capitalisation and the ESG combined score during the observed time. The correlation is significant at the 0.01 level with negative values. As the ESG combined score increases, market capitalisation of the company decreases. A moderate correlation between the two variables was recognised in 2018, 2019 and 2020. At the early beginning of the ESG rating, in 2016 and 2017, the correlation was weak. The correlation between the two variables has been negative over the years, meaning companies with better ESG ratings have higher market capitalisation.

The authors did not include industry type or company size in their study; therefore, they suggest further research to include these characteristics of the companies to study differences between companies in detail. These results can be beneficial for companies to change their environmental policies and use them as a benchmark. Testing the differences between companies in their ESG ratings according to industries helps companies to mitigate risks and to incorporate environmental, social and governance practices into their business strategy. By incorporating the ESG framework, companies have greater opportunities to enhance their market position and attract new customers and investors.

## 5. Discussion

ESG ratings in the EU have gained prominence as they assess a company's environmental impact, social responsibility, and governance practices. These ratings provide stakeholders, including investors, employees, customers, and regulatory bodies, with

valuable information to make informed decisions. Investors increasingly consider ESG factors when allocating their capital, as sustainable investments are seen as more resilient and better aligned with long-term value creation. Companies with favourable ESG ratings are likely to attract responsible investors, enhance their reputation, and gain a competitive edge in the market. The EU has recognised the importance of ESG ratings and market capitalisation in driving sustainability. The EU Sustainable Finance Action Plan, launched in 2018, aims to mobilise private capital towards sustainable investments and integrate ESG considerations into the financial system. It includes measures such as the development of a sustainable taxonomy, standardised ESG disclosures, and the establishment of the EU Ecolabel for financial products. The EU has also introduced regulations to enhance transparency and comparability of ESG information. The SFDR, effective since 2021, requires financial market participants to disclose how they integrate ESG factors into their investment decisions. This promotes consistency and reliability in ESG ratings, enabling investors to make informed choices based on harmonised information. Moreover, the EU's focus on sustainable finance and ESG ratings is aligned with its broader sustainability goals. The European Green Deal, announced in 2019, aims to make the EU the world's first climate-neutral continent by 2050. Sustainable finance and robust ESG ratings contribute to achieving this objective by channelling investments towards green projects, fostering responsible business practices, and supporting the transition to a low-carbon economy.

Based on the results of the conducted analysis, the authors showed that when market capitalisation increases, the ESG combined score decreases, but it is a positive outcome since the ESG combined score is measured on a scale from one to twelve, where one is A+, and twelve is D-. These findings are aligned with previous research conducted by Buallay (2019), who also observed a positive impact of ESG reports on firm performance. Similarly, Lo and Sheu (2007) found a significant positive relationship between corporate sustainability and market value, suggesting that being sustainable can enhance firm value. The results obtained by the authors, along with these earlier studies, highlight the importance of ESG ratings in influencing market perceptions and capitalisation. Fatemi et al. (2018) and Ting et al. (2019) examined the impact of ESG disclosure and combined scores on firm value and market performance, respectively. Both studies reported positive associations, with ESG disclosure and higher ESG combined scores linked to increased firm value and improved market performance. The findings obtained by the authors corroborate these results, reinforcing the notion that companies that prioritise ESG practices and transparently disclose their sustainability efforts are more likely to enjoy positive market outcomes. Overall, the convergence of the results obtained by the authors with those of previous research supports the idea that ESG ratings play a significant role in influencing market capitalisation and firm value. Companies that perform well on ESG metrics and actively communicate their sustainability efforts to stakeholders are likely to attract more interest from investors who consider ESG ratings in their investment decisions. This increased investor interest can lead to higher demand for company stock and, consequently, an uplift in market capitalisation.

Drawing on the insights from prior studies and findings obtained by the authors, this research has two primary limitations. Firstly, it does not consider factors like company size or a specific industry in which the companies operate. Secondly, the study relies solely on aggregated ESG scores without assessing each individual rating separately. The authors have two recommendations for future research based on the identified limitations. The first recommendation is to investigate the moderating effect of company size and industry. Future research could explore the potential moderating effect of company size and the specific industry in which companies operate on the relationship between market capitalisation and ESG combined scores. By incorporating these additional factors into the analysis, researchers could gain a more detailed understanding of how the impact of ESG ratings on market capitalisation varies across different company sizes and industries. The second recommendation is to conduct individual ESG rating assessments. By examining the influence of each specific ESG rating on market capitalisation independently, researchers can gain deeper insights into which aspects of ESG ratings drive the observed effects. This approach would allow for a better understanding of the importance of each ESG category in shaping market perceptions and capitalisation, and it could inform companies about which ESG areas to focus on for the purpose of maximising market value.

## 6. Conclusion

ESG reporting has become integral to a company's market capitalisation. ESG ratings give investors insights into a company's sustainability practices, risk management capabilities, and long-term viability. Higher ESG ratings enhance investor perceptions, attract a broader investor base, and potentially impact a company's market capitalisation. ESG reporting also contributes to effective risk management, access to capital, long-term sustainability, and compliance with evolving regulatory requirements. Companies that prioritise ESG reporting and integrate sustainability into their business strategies are better positioned to capture opportunities, mitigate risks, and achieve long-term success in a rapidly changing business landscape. Embracing ESG reporting is not only a responsible business practice but also a means of driving financial performance and creating value for all stakeholders involved.

ESG ratings have several advantages for companies, investors, and society. Companies can use ESG ratings to demonstrate their dedication to sustainability, ethical corporate conduct, and a beneficial social effect. Customers, workers, communities, and regulators are just a few of the stakeholders it helps to create trust with. This improves the company's reputation and brand value. Companies may demonstrate their ability to create long-term value by receiving higher ESG ratings, which lowers their cost of capital and improves access to funding. ESG ratings assist businesses in identifying and controlling risks connected to environmental, social, and governance issues, such as those brought on by climate change, resource shortages, supply chain management, and labour practices. Companies can increase their resilience and reduce any negative effects on their finances, legal standing, and reputation by developing plans to mitigate these risks by tracking and responding to their ESG ratings. By receiving higher ESG ratings, companies can highlight their sustainable practices, ethical supplier chains, and beneficial societal consequences, setting themselves apart from competitors. Customers concerned about the environment and the community may be drawn to companies with higher ESG ratings, increasing market share and cultivating customer loyalty. Additionally, businesses with high ESG ratings could be able to attract and retain top people, providing them with an advantage in the job market. ESG ratings encourage businesses to take a long-term approach to decision-making, considering both financial and environmental aspects. Companies can find new business possibilities, promote innovation, and build long-term value by incorporating sustainability into their plans, all while helping to build a more sustainable economy. ESG ratings assist businesses in meeting the changing regulatory standards for sustainability and ethical business conduct. Companies can reduce legal risks, preserve good standing with regulators, avoid potential fines or reputational harm, and keep ahead of regulatory changes and reporting requirements. ESG ratings support international sustainability objectives like the SDGs of the UN. Companies can demonstrate how they contribute to sustainable development and positive societal results by receiving higher ESG ratings, disclosing their efforts to address environmental concerns, promote social inclusion, and enhance governance standards.

***Acknowledgement:*** This paper was supported by the Croatian Science Foundation under the project IP-2020–02-1018.

## References


1. Akdoğan, H. & Hicyorulmaz, E. (2015). The importance of the sustainability of environmental accounting. *Journal of Economic Development, Environment and People*, *4*(2), 6-20. https://doi.org/10.26458/jedep.v4i2.104
2. Attig, N., El Ghoul, S., Guedhami, O. & Suh, J. (2013). Corporate social responsibility and credit ratings. *Journal of Business Ethics*, *117*, 679-694. https://doi.org/10.1007/s10551-013-1714-2
3. Billio, M., Costola, M., Hristova, I., Latino, C. & Pelizzon, L. (2021). Inside the ESG ratings: (Dis) agreement and performance. *Corporate Social Responsibility and Environmental Management*, *28*(5), 1426-1445. https://doi.org/10.1002/csr.2177
4. Bird, R. D., Hall, A., Momentè, F. & Reggiani, F. (2007). What corporate social responsibility activities are valued by the market?. *Journal of Business Ethics*, *76*, 189-206. https://doi.org/10.1007/s10551-006-9268-1
5. Boffo, R. & Patalano, R. (2020). *ESG Investing: Practices, Progress and Challenges*. Éditions OCDE.
6. Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98-115. https://doi.org/10.1108/MEQ-12-2017-0149
7. Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*(4), 39-48. https://doi.org/10.1016/0007-6813(91)90005-G
8. Cellier, A. & Chollet, P. (2016). The effects of social ratings on firm value. *Research in International Business and Finance*, *36*, 656-683. https://doi.org/10.1016/j.ribaf.2015.05.001
9. Chatterji, A. K., Levine, D. I. & Toffel, M. W. (2009). How well do social ratings actually measure corporate social responsibility?. *Journal of Economics & Management Strategy*, *18*(1), 125-169. https://doi.org/10.1111/j.1530-9134.2009.00210.x
10. Daines, R. M., Gow, I. D. & Larcker, D. F. (2010). Rating the ratings: How good are commercial governance ratings?. *Journal of Financial Economics*, *98*(3), 439-461. https://doi.org/10.1016/j.jfineco.2010.06.005
11. Dorfleitner, G., Halbritter, G. & Nguyen, M. (2015). Measuring the level and risk of corporate responsibility–An empirical comparison of different ESG rating approaches. *Journal of Asset Management*, *16*, 450-466. https://doi.org/10.1057/jam.2015.31
12. Eccles, N. S. & Viviers, S. (2011). The origins and meanings of names describing investment practices that integrate a consideration of ESG issues in the academic literature. *Journal of Business Ethics*, *104*(3), 389-402. https://doi.org/10.1007/s10551-011-0917-7
13. Ermakova, A. & Finogenova, Y. (2023). Industry-Specific Approach to ESG Ratings: Analyzing the Impact on Russian Companies. *ESG Law Review*, *6*(1), e01577-e01577. https://doi.org/10.37497/esg.v6i1.1577
14. Fatemi, A., Glaum, M. & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, *38*, 45-64. https://doi.org/10.1016/j.gfj.2017.03.001
15. Frank, M. Z. & Goyal, V. K. (2009). Capital Structure Decisions: Which Factors Are Reliably Important?. *Financial Management*, *38*(1), 1-37. https://doi.org/10.1111/j.1755-053X.2009.01026.x
16. Fransson, N. & Gärling, T. (1999). Environmental concern: Conceptual definitions, measurement methods, and research findings. *Journal of Environmental Psychology*, *19*(4), 369-382. https://doi.org/10.1006/jevp.1999.0141
17. Godet, C. (2020). An update on EU climate policy: Recent developments and expectations. In Orsini, A. & Kavvatha, E. (Eds.) *EU Environmental Governance* (pp. 15-33). Routledge. https://doi.org/10.4324/9780367816667-3
18. Hauke, J. & Kossowski, T. (2011). Comparison of values of Pearson's and Spearman's correlation coefficients on the same sets of data. *Quaestiones Geographicae*, *30*(2), 87-93. https://doi.org/10.2478/v10117-011-0021-1
19. Holm, C., Balling, M. & Poulsen, T. (2014). Corporate governance ratings as a means to reduce asymmetric information. *Cogent Economics & Finance*, *2*(1), 919235. https://doi.org/10.1080/23322039.2014.919235

20. Jasch, C. (2006). Environmental management accounting (EMA) as the next step in the evolution of management accounting. *Journal of Cleaner Production*, *14*(14), 1190-1193. https://doi.org/10.1016/j.jclepro.2005.08.006
21. King, A. A. & Lenox, M. J. (2001). Does it really pay to be green? An empirical study of firm environmental and financial performance. *Journal of Industrial Ecology*, *5*(1), 105-116. https://doi.org/10.1162/108819801753358526
22. Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*, *4*(1), 70-81. https://doi.org/10.1080/17524030903529749
23. Lo, S. F. & Sheu, H. J. (2007). Is corporate sustainability a value-increasing strategy for business?. *Corporate Governance: An International Review*, *15*(2), 345-358. https://doi.org/10.1111/j.1467-8683.2007.00565.x
24. Lysandrou, P. & Parker, D. (2012). Commercial corporate governance ratings: an alternative view of their use and impact. *International Review of Applied Economics*, *26*(4), 445-463. https://doi.org/10.1080/02692171.2011.619971
25. McWilliams, A. & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification?. *Strategic Management Journal*, *21*(5), 603-609. https://doi.org/10.1002/(SICI)1097-0266(200005)21:5<603::AID-SMJ101>3.0.CO;2-3
26. Nilsson, J. & Strand, H. (2015). *The impact of company size on the value relevance of social ratings: A quantitative study* [Master thesis, Umeå University]. Umeå University.
27. Refinitiv (2022). *Environmental, social and governance scores from Refinitiv.* https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf
28. Reinganum, M. R. (1999). The significance of market capitalization in portfolio management over time. *Journal of Portfolio Management*, *25*(4), 39-50. https://doi.org/10.3905/jpm.1999.319750
29. Schober, P., Boer, C. & Schwarte, L. A. (2018). Correlation Coefficients: Appropriate Use and Interpretation. *Anesthesia & Analgesia*, *126*(5), 1763-1768. https://doi.org/10.1213/ANE.0000000000002864
30. Şenol, H. & Özçelik, H. (2012). The Importance of Environmental Accounting in the Context of Sustainable Development and Within IFRS Evaluation. In *Proceedings of the 3rd International Symposium on Sustainable Development* (pp. 81-89). Sarajevo: International Burch University.
31. Şerban, C. (2013). Social Marketing and Privately Held Companies: The Impact Of Corporate Social Responsibility Activities on Romanian Consumers. *Journal of Food Products Marketing*, *19*(2), 81-92. https://doi.org/10.1080/10454446.2013.761538
32. Spellman, G. K. & Watson, R. (2009). *Corporate governance ratings and corporate performance: An analysis of Governance Metrics International (GMI) ratings of US firms, 2003 to 2008*. Available at SSRN: https://ssrn.com/abstract=1392313 or http://dx.doi.org/10.2139/ssrn.1392313
33. Stoica, O. (2002). *The role of the capital market in the economic development*. Available at SSRN: https://ssrn.com/abstract=951278 or http://dx.doi.org/10.2139/ssrn.951278
34. Street, D. L. (2020). ESG ratings of MSCI ACWI Index Companies: DOW 30 and Global 500 European constituents. In *Proceedings of the 3rd International Conference on Economics and Social Sciences* (pp. 49-62). Bucharest: Bucharest University of Economic Studies. https://doi.org/10.2478/9788395815072-007
35. Tarmuji, I., Maelah, R. & Tarmuji, N. H. (2016). The impact of environmental, social and governance practices (ESG) on economic performance: Evidence from ESG score. *International Journal of Trade, Economics and Finance*, *7*(3), 67. https://doi.org/10.18178/ijtef.2016.7.3.501
36. Ting, I. W. K., Azizan, N. A., Bhaskaran, R. K. & Sukumaran, S. K. (2019). Corporate social performance and firm performance: Comparative study among developed and emerging market firms. *Sustainability*, *12*(1), 26. https://doi.org/10.3390/su12010026
37. Ugwuanyi, U. (2012). Capital structure and market values of companies. *European Journal of Business and Management*, *4*(21), 49-54.