The Relationship Between Sustainability Reporting and Corporate Performance. Evidence from the European Energy Sector

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Abstract

This article examines the relationship between corporate sustainability, as measured by the combined environmental, social and governance (ESG) and individual scores, and corporate performance of companies operating in the European energy sector. Due to the new EU regulation, companies must adopt strategies regarding environmental, social and governance activities, elaborating an integrated report that shows investors how they are involved in social issues and environmental concerns. This study is based on a quantitative research method which involves using an econometric model and running a multiple linear regression. The data used was collected from the Thomson Reuters Eikon database and covers the period 2017-2021. The identified results are mixed. There is a positive, but statistically insignificant relationship between ESG, ENV, SOC and ROA, while there is a negative and significant relationship between GOV and ROA at the 0.05 level. ENV and SOC scores have a strong negative and significant impact on ROE, and ESG and GOV do not show a significant relationship with it. Additionally, ESG has a significant positive impact on Tobin's Q ratio, and ENV and SOC have a significant positive impact on it. This research can help investors and other stakeholders have an overview of the energy sector in which they can direct their investment strategies.

Key terms: sustainability, corporate performance, environmental, social and governance factors, the energy sector

JEL classification: Q56, M14, G30, L25, O13

1. Introduction

In recent years, attention to sustainability issues has led to increased dissemination of information on corporate environmental, social and governance (ESG) practices. As a reaction to the financial crisis of 2008-2009 and the decline in stakeholders' confidence, the European Commission initiated several reform activities to enhance the quality of corporate governance. The motivation was to shift from a short-term approach of political value to shareholders towards a more sustainable management strategy that includes the interests of heterogeneous stakeholder groups. Effective stakeholder management should lead to better management of environmental, social and governance issues and could also be linked to future financial performance.

The link between the sustainability and the performance of companies is an important topic of debate. For example, several studies analyze the impact of sustainability reporting on firm value (Constantinescu, 2021; Constantinescu *et al.*, 2021), cost of capital (Gholami *et al.*, 2023) or financial performance (Chen and Xie, 2022; Yoo and Managi, 2022). Moreover, there are studies that focus on a sample that includes all industries (Kumar and Firoz, 2022) or a specific industry: financial companies (Shakil *et al.*, 2019; El Khoury *et al.*, 2021), the food industry (Buallay, 2022; Conca *et al.*, 2021), the agricultural sector (Mititean, 2023) or the energy sector (Baran *et al.*, 2022; Behl *et al.*, 2022).

Existing studies in the specialized literature identify mixed results and general conclusions for industries or for each region are far from clear. The purpose of this study is to analyze the impact of sustainability reporting, represented by combined and individual ESG factors, on the financial, operational and market performance of companies in the energy sector for the period 2017-2021. The number of studies analyzing this impact on the energy sector is relatively small (Naeem and Çankaya, 2022; Baran *et al.*, 2022; Alhawaj *et al.*, 2023, Constantinescu *et al.*, 2021), opening new research opportunities in this domain.

Using multiple linear regression, the results obtained are mixed. There is a positive, but statistically insignificant relationship between ESG, ENV (environmental score) and SOC (social score) and ROA (return on assets), while there is a significant and negative relationship between GOV (governance score) and ROA at the 0.05 level. ENV and SOC scores have a strong negative and significant impact (at the 0.01 level) on ROE (return on equity), while ESG and GOV have a negative and insignificant relationship with it. In addition, ESG factors have a significant positive impact (at the 0.05 level) on the Tobin Q ratio, and ENV and SOC scores have a significant positive impact (at the 0.01 level) on it.

The structure of this paper advances as follows: the second section presents the literature review and hypotheses development, while the research method is presented in the third part. The fourth section includes the results and discussions, and the paper's conclusions is the last section of this article.

2. Review of specialized literature and development of research hypotheses

2.1. Sustainability through ESG factors

Research that refers to sustainability reporting presented in the literature as ESG factors and companies' performance has an upward trend among researches (Mititean, 2023; Bătae *et al.*, 2020; Bătae *et al.*, 2021; Buallay, 2022). When discussing sustainability, many authors refer to various concepts, such as CSR (corporate social responsibility) (Buallay, 2022), social and environmental performance (Mititean, 2023) or environmental, social and governance factors (Bătae *et al.*, 2020; Bătae *et al.*, 2021). To measure sustainability or ESG factors, the authors took data from the Refinitiv Eikon database, which includes approximately 150 indicators grouped into ten dimensions to measure a company's ESG performance and provide industry-specific rankings (Bătae *et al.*, 2021).

Environmental performance is a score that can take values between 0 and 100 and is calculated based on three pillars: the use of resources, how a company reduces the consumption of energy, water, materials and emissions and creates innovative products that are environmentally friendly (Refinitiv Eikon, 2022). In other words, environmental performance is a measure of environmental impact, resource consumption and related financial elements, along with efforts to reduce such impact and the implementation of preventive measures (Dragomir, 2018).

Social performance can take values between 0 and 100 and is calculated based on four pillars: community, human rights, product responsibility and workforce (Refinitiv Eikon, 2022). In other words, social performance refers to the management of stakeholders, such as employees, customers and society, and to the policies that a company implements in order to be involved in such actions.

Environmental performance is a score that can take values between 0 and 100 and is calculated based on three pillars: management, shareholders and CSR strategy (Refinitiv Eikon, 2022). Corporate governance criteria represent a company's ability to use creative methodologies and practices in order to regulate their rights and responsibilities by developing incentives, as well as checks and balances to generate long-term shareholder value (Abdi *et al.*, 2020).

2.2. The relationship between ESG factors and the performance of companies

There are many studies investigating this relationship. However, these studies have generated mixed results. The relationship between the financial performance of companies and the reporting of ESG factors was examined by Sharma *et al.* (2020). The OLS (ordinary least squares) method was applied to investigate the relationship between the variables for Indian companies listed on the Bombay Stock Exchange for the period 2013-2016. Data were collected from companies' annual and sustainability reports and the results showed that financial performance has a positive and significant correlation with ESG reporting practices.

Almeyda and Darmansya (2019) analysed the non-financial aspects that impact the financial performance of companies, showing the scores obtained by companies that publish ESG information. The results identified a positive and statistically significant relationship between the reporting of ESG factors and the companies' ROA and ROE. Also, a positive and statistically significant relationship was found between environmental factors, ROE and the companies' share prices.

The relationship between corporate governance and ESG information reporting was explored by Amara and Ahmadi (2023). They aimed to investigate whether some internal and external elements influence ESG publication. The sample consists of a panel dataset of 4,095 observations from 355 listed companies in the period 2010-2018. The findings supply the expected signs of the variables, leading to the conclusion that the positive and statistical significance of these criteria in evaluating ESG information contributes to mitigating the challenges faced by companies.

Conca *et al.* (2021) verified the effectiveness of reporting ESG factors for 57 listed European companies in the agri-food sector during 2010-2018. The obtained results showed that the companies' ESG information disclosure practices influence corporate profitability. As dependent variables, this study uses ROA and Tobin's Q ratio. The results show that there is a positive relationship between profitability and social and environmental disclosure practices. A negative effect was found between firm market value and governance disclosure practices.

Al Amosh *et al.* (2022) set out to investigate whether ESG reporting has an impact on financial performance represented by the Tobin Q ratio, ROA and ROE indices in the Levant countries (Jordan, Palestine, Syria and Lebanon) for the period 2012-2019, which was a period of turbulence and political repercussions affecting the countries in the region. Using content analysis technique, data were collected from 124 non-financial companies in Levant countries, 883 observations were collected as panel data for research analysis. The results show that collective environmental, social and ESG performance maximizes financial performance, while governance performance only influences ROA. This suggests that businesses pay a lot of attention to different stakeholders, mainly external ones. Maximizing stakeholder value remains an optimal strategy to achieve the company's financial goals. Thus, improving the reporting levels of non-financial performance in the capital markets will improve the chances of increasing the financial performance indicators of companies.

Velte (2017) focused on ESG reporting in total and divided by each part and assessing their impact on financial performance. The study includes a sample of companies listed on the stock exchange (DAX 30, TecDAX, MDAX) for the years of activity 2010-2014. Correlation and regression analysis was performed to assess possible links between ESG factors. Data were collected from Thomson Reuters' Asset4 database. ROA and Tobin Q ratio

were used to measure financial performance. ESG factors has a positive impact on ROA but has no impact on Tobin Q ratio. Analyzing the three different components, governance has the strongest impact on financial performance in comparison with the environment and social performance.

In the energy sector, Baran *et al.* (2022) set out to investigate whether environmental, social and corporate governance practices of companies are associated with their financial performance. Data were collected from eight companies with a dominant position in the Polish energy sector. The research used comparative analysis between ESG performance and dependent variables return on equity, return on assets and return on sales (ROS). The obtained results do not reveal repetitive dependencies that would help the discovery of a model of the impact of ESG factors on the companies' financial performance. Despite showing cases of correlations between ESG and CFP (corporate financial performance) scores at a high level, sometimes even at a very high level, individual case studies differ significantly from each other.

Naeem and Çankaya (2022) analysed the impact that ESG policies of global energy and power generation corporations have on their financial performance. The study analyses the impact of ESG operations and performance on the profitability and market value of corporations operating in sensitive industries, such as energy and power generation, using panel data regression. ESG performance data and financial data of 192 companies in the energy and power generation sector from 2008 to 2019 were collected from the Thomson Reuters Eikon database for statistical analyses. According to the results, ESG performance is significantly correlated with the financial performance of the energy and power generation sector. The results suggest that ESG performance has both a positive and significant impact on corporate profitability, but a negative impact on corporate market value.

Constantinescu *et al.* (2021) analyzed the impact that ESG factors have on the value of companies in the energy sector. The results indicate that there is an association between the reporting of ESG factors and the value of companies and, based on the type of connection (positive or negative), companies may include aspects of non-financial information, namely ESG factors, which could attract new capital.

Based on the results found in the specialized literature, the following hypothesis was developed:

H1: ESG factors have a positive impact on the performance of companies in the energy sector.

Several secondary hypotheses follow from the main hypothesis, such as:

✓ *H1.1: Environmental factors have a positive impact on the performance of companies.*
✓ *H1.2: Social factors have a positive impact on the performance of companies.*
✓ *H1.3: Governance factors have a positive impact on the performance of companies.*

Based on the previously presented arguments, we propose the following conceptual model (figure below) that highlights the impact of ESG factors on the performance of companies:
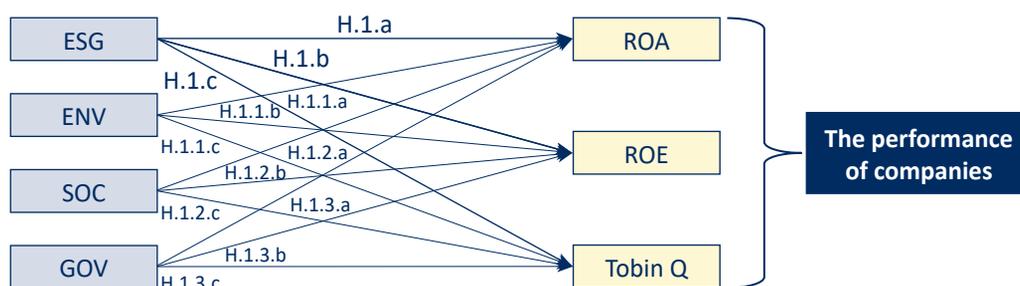
The proposed conceptual model for hypotheses testing

3. Research methodology

In this study, the impact of sustainability reporting, represented by combined and individual ESG factors (environmental, social and governance scores), on the performance of companies in the energy sector is analyzed. The choice of the energy sector is based on several reasons. Firstly, the energy sector is considered a sensitive industry regarding environmental issues, being considered the most polluting sector of all industries. Secondly, due to recent increases in energy prices, it is important to see how financial performance changes and to what extent ESG factors influence this process.

The data was extracted from Thomson Reuters Refinitiv Eikon DataStream for the last five years (2017-2021) from companies operating in the following energy sectors: coal, integrated oil and gas, oil and gas drilling, oil and gas exploration and production, oil and gas refining and marketing, oil and gas transportation services, oil related services and equipment, renewable energy equipment and services, renewable fuels and uranium. The analysis also presented the distribution by regions in Europe, with 49 observations from Central Europe, 23 observations from Eastern Europe, 65 observations from Northern Europe, 52 observations from Southern Europe and 165 observations from Europe included in the analysis from the West.

Table 1. Distribution of the sample by region and energy sectors

Year	2021	2020	2019	2018	2017	Total
A. The region						
Central Europe	8	8	8	8	17	**49**
Eastern Europe	4	4	4	4	7	**23**
Northern Europe	10	10	10	10	25	**65**
Southern Europe	10	10	10	10	12	**52**
Western Europe	29	30	30	30	46	**165**
Total	**61**	**62**	**62**	**62**	**107**	**354**
B. The energy sector of activity						
Coal	2	2	2	2	3	**11**
Integrated oil and gas	8	8	8	8	8	**40**
Oil and gas drilling	1	1	1	1	2	**6**
Oil and gas exploration and production	12	12	12	12	19	**67**
Oil and gas refining and marketing	10	10	10	10	14	**54**
Oil and gas transportation services	7	7	7	7	12	**40**
Oil related services and equipment	17	17	17	17	23	**91**
Renewable energy equipment and services	2	2	2	2	18	**26**
Renewable fuels	1	2	2	2	7	**14**
Uranium	1	1	1	1	1	**5**
Total	**61**	**62**	**62**	**62**	**107**	**354**

Source: Results obtained from Thomson Reuters Eikon.

In order to have a more accurate picture of the performance of companies in the energy sector, it was measured on three levels: operational (ROE), financial (ROA) and market (Tobin Q), as authors such as Mititean (2023), Bătae *et al.* (2020), Bătae *et al.* (2021) or Constantinescu *et al.* (2021) used in their studies. ESG factors represent the independent variables of the study and are calculated and defined directly by Refinitiv Eikon (2022).

In addition, the econometric model has three control variables, represented by two indicators for firm size and the leverage effect.

The econometric model developed to express the impact of ESG factors on the performance of companies in the energy sector is presented as follows:

$$Perf = \beta_0 + \beta_1 ESG_t + \beta_2 FZT_t + \beta_3 FZE_t + \beta_4 LV_t + \varepsilon_t \quad (1)$$

Where:

Perf – the performance of companies (will take ROA, ROE and Tobin Q values in turn) — Dependent variables

ESG – environmental, social and governance score (it will then take the value of ENV, SOC and GOV) — Independent variables

FZT and FZE – firm size
LV – the leverage effect — Control variables

Table 2. The variables included in the study

Variable	Abbreviation	Definition
A. Dependent variables (downloaded directly from Refinitiv Eikon)		
Return on assets	ROA	It is calculated by dividing net income by total assets, showing return on total assets.
Return on equity	ROE	It is calculated by dividing net income by equity, showing the profitability of invested equity from an accounting perspective.
Tobin Q ratio	Tobin Q	It is calculated by dividing the market value of the company by total assets, showing the market performance.
B. Independent variables (downloaded directly from Refinitiv Eikon)		
ESG score	ESG	It is an overall company score based on self-reported information on environmental, social and corporate governance pillars.
Environmental score	ENV	It measures a company's impact on living and non-living natural systems, including air, land and water, as well as complete ecosystems.
Social score	SOC	It measures a company's ability to generate trust and loyalty with its workforce, customers and society through the use of best management practices.
Governance score	GOV	It measures a company's systems and processes that ensure its board members and directors act in the long-term interests of its shareholders.
C. Control variables (calculated based on data downloaded directly from Refinitiv Eikon)		
Company size	FZT	It represents the natural logarithm of total assets.
Company size	FZE	It represents the natural logarithm of the total number of employees.
The leverage effect	LV	It is calculated by dividing total liabilities by total equity.

Source: Own results obtained with the SPSS software.

4. Results and discussion

This section presents the descriptive statistics, Pearson and Spearman correlation matrix and regression results to establish the impact that ESG factors have on the performance of companies in the European energy sector.

Descriptive statistics of the dependent variables (performance of energy sector companies), independent variables (combined and individual ESG scores) and control variables are presented in Table 3.

Table 3. Descriptive statistics of the sample

Variables	N	Minimum	Maximum	Average	Standard deviation	Asymmetry		Flatten	
						Statistical	Standard error	Statistical	Standard error
ROA	335	-75.76%	171.75%	4.03%	24.99%	4.293	0.133	28.926	0.266
ROE	283	-121.03%	96.59%	8.10%	29.01%	-1.301	0.145	7.326	0.289
Tobin Q	354	0.00	12.00	0.76	1.28	4.750	0.130	28.009	0.259
ESG	354	7.03	84.71	55.95	16.12	-0.482	0.130	0.114	0.259
ENV	354	0.00	96.58	57.40	21.03	-0.398	0.130	-0.199	0.259
SOC	354	3.64	92.61	65.28	20.86	-0.888	0.130	0.101	0.259
GOV	354	6.78	96.79	65.42	21.46	-0.600	0.130	-0.624	0.259
FZT	354	15.91	26.73	22.30	1.99	-0.041	0.130	0.162	0.259
FZE	334	1.10	12.72	8.11	2.16	-0.383	0.133	-0.307	0.266
LV	354	-18.14	34.40	2.47	5.97	3.175	0.130	16.273	0.259

Source: Own results obtained with the SPSS software.

Analyzing the financial performance, the average ROA is 4.03%, with a minimum of -75.76% and a maximum of 171.75%. At the same time, the operating performance has an average of 8.1% with a standard deviation of 29.01%, while the market value, represented by the Tobin Q ratio, has an average of 0.76, with a maximum of 12 and a minimum of 0. The average value of the overall ESG score is 55.95, being close to the ENV score of 57.4. The minimum scores for the independent variables SOC and GOV are 3.64 and 6.78, while the maximum values are 92.61 and 96.79. FZT has a mean of 22.3, while FZE has a mean of 8.11, with a standard deviation of 1.99 and 2.16, it is normally distributed, while leverage (LV) has a mean of 2.47 and a standard deviation of 5.97. Moreover, Table 3 presents the descriptive statistics that support the hypothesis that the data are normally distributed and that the econometric model developed based on these variables is a valid one (Mititean, 2023).

Table 4 shows the Pearson (below diagonal) and Spearman (above diagonal) correlation matrix for all variables included in the study. According to Pearson's correlation, ESG, SOC and GOV variables are positively correlated with ROA at the 0.01 level. Operating performance (ROE) is negatively correlated at the 0.01 level with the SOC score and at the 0.05 level with the ENV score.

Table 4. Pearson and Spearman correlation matrix

Variables	ROA	ROE	Tobin Q	ESG	ENV	SOC	GOV	FZT	FZE	LV
ROA	1	0.713**	0.158**	0.043	0.192**	0.181**	0.077	0.337**	0.318**	0.054
ROE	0.556**	1	0.147*	-0.042	0.053	0.057	0.081	0.305**	0.147*	0.120*
Tobin Q	-0.037	0.212**	1	0.080	0.009	-0.047	-0.107*	-0.201**	-0.144**	-0.291**
ESG	0.214**	0.023	-0.093	1	0.500**	0.542**	0.433**	0.133*	0.026	0.140**
ENV	0.100	-0.030	-0.129*	0.625**	1	0.777**	0.457**	0.590**	0.636**	0.261**
SOC	0.226**	-0.123*	-0.138**	0.700**	0.777**	1	0.454**	0.482**	0.497**	0.296**
GOV	0.129*	0.048	-0.168**	0.563**	0.514**	0.543**	1	0.477**	0.283**	0.282**
FZT	0.092	0.156**	-0.340**	0.251**	0.651**	0.564**	0.539**	1	0.768**	0.327**
FZE	0.217**	0.055	-0.206**	0.184**	0.679**	0.506**	0.316**	0.764**	1	0.222**
LV	0.158**	-0.310**	-0.204**	0.050	0.130*	0.163**	0.173**	0.165**	0.128*	1

** The correlation is significant at the 0.01 level. * The correlation is significant at the 0.05 level.

Source: Own results obtained with the SPSS software.

At the same time, a positive correlation was identified between the ESG score and GOV at the 0.05 level. Furthermore, a negative correlation is identified between market performance, represented by the Tobin Q ratio, and the independent variables SOC and GOV at the 0.01 level and with the ENV variable at the 0.05 level.

Spearmen's correlation matrix supports the previously identified results. Furthermore, the variance inflation factor (VIF) was used to check for potential multicollinearity issues. The results obtained for each regression show that the VIF values for the independent variables are below 10 and the tolerance range is above 0.1, which means that multicollinearity does not exist, according to Wang *et al.* (2019) and Mititean (2022).

Table 5. Impact of sustainability on financial and operational performance

Variables	Model 1.a	Model 1.b	Model 1.c	Model 1.d	Model 2.a	Model 2.b	Model 2.c	Model 2.d
	Coefficient							
Constant	*-33.59*	*-28.33***	*-30.93***	*-33.87***	*-65.33**	*-81.77***	*-74.78***	*-67.90***
ESG	0.080				-0.028			
ENV		0.047				-0.313**		
SOC			0.001				-0.455**	
GOV				-0.050*				-0.028
FZT	*1.32***	*1.22**	*1.39**	*1.68***	*3.99***	*5.07***	*5.36***	*4.12***
FZE	0.349	0.213	0.402	0.351	-1.301	-0.232	-0.331	-1.321
LV	*-0.36**	*-0.36***	*-0.37***	*-0.36***	*-1.56***	*-1.52***	*-1.56***	*-1.55***
F	9.269	8.547	8.258	8.684	10.690	12.716	16.235	10.699
Durbin-Watson	2.201	2.187	2.195	2.206	1.896	1.929	1.916	1.905
Adjusted R squared	0.095	0.880	0.850	0.089	0.124	0.146	0.182	0.124
ANOVA sig.	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]

** The relationship is significant at the 0.01 level.   * The relationship is significant at the 0.05 level.

Source: Own results obtained with the SPSS software.

Tables 5 and 6 present the results of the multiple linear regression analysis of impact of sustainability reporting on the financial, operational and market performance of companies operating in the energy sector. The regression analysis shows that the econometric model can explain between 8.5% and 9.5% of the variation in ROA, between 12.4% and 18.2% of the variation in ROE and between 13% and 15.2% of the variation in the Tobin Q ratio. Moreover, the model used is valid, ANOVA sig. being < 0.001.

The results provided by the regression models shown that the relationship is significant and negative only for the governance score at the 0.05 level with ROA, the relationship being insignificant for the other independent variables.

The results obtained are contrary to those of Sandberg *et al.* (2022), who found that ESG factors combined and analyzed individually have a positive impact on the financial performance of companies. Moreover, the results obtained by Baran *et al.* (2022) suggest that ESG factors for companies in the energy sector do not have a significant impact on financial performance. On the other hand, Zhao *et al.* (2018) show that good performance of ESG factors could lead to better financial performance.

By analysing the impact that ESG factors, combined and individually, have on operational performance, the results identified are mixed. The environmental score and social score negatively impact the operating performance (ROE) of companies in the energy sector. On the other hand, ESG and GOV factors also have a negative, but insignificant impact on ROE. Analyzing the specialized literature, it was observed that the obtained

results are contrary to those of Pinheiro *et al.* (2023), who identified that those companies in the energy sector that manage to achieve better ESG performance tend to have improved operational performance.

Table 6. Impact of sustainability on market performance

Variables	Model 3.a	Model 3.b	Model 3.c	Model 3.d
	Coefficient			
Constant	*6.35***	*7.07***	*6.50***	*6.50***
ESG	*0.00**			
ENV		*0.01***		
SOC			*0.01***	
GOV				0.01
FZT	*-0.27***	*-0.32***	*-0.29***	*-0.29***
FZE	0.07	0.02	0.06	0.08
LV	*-0.03***	*-0.04***	*-0.03***	*-0.03***
F	13.435	15.903	13.876	13.573
Durbin-Watson	2.233	2.267	2.237	2.232
Adjusted R squared	0.130	0.152	0.134	0.131
ANOVA sig.	< 0.001[b]	< 0.001[b]	< 0.001[b]	< 0.001[b]

** The relationship is significant at the 0.01 level.   * The relationship is significant at the 0.05 level.

Source: Own results obtained with the SPSS software.

The result of the regression models for market performance (Tobin Q ratio) identified a positive and significant relationship between ESG, ENV and SOC factors at the 0.05 and 0.01 levels with the Tobin Q ratio, while the GOV score has a positive, but insignificant impact on market performance. The obtained results are supported by those of Constantinescu *et al.* (2021), who found that ESG factors, combined and analyzed individually, have a positive impact on the Tobin Q ratio.

5. Conclusions

Currently, companies aiming to attract new investment are focused on their involvement in environmental, social and governance activities, with the aim of reporting information about the impact of their activity on the environment, social actions and corporate governance. For investors, the degree of the companies' involvement in environmental and social issues is an important factor in their future investment decisions.

Through this study, it is intended to analyze how the disclosure of ESG information influences the financial performance of companies in the energy sector. The research is based on multiple linear regression as a method of analysis, using four independent variables, represented by the combined ESG score and each taken individually (environmental, social and governance scores). Financial performance is measured by ROA, operational performance – by ROE, and market performance – by the Tobin Q ratio. The variables used in this study were identified in other studies by authors such as Mititean (2023), Bătae *et al.* (2020), Bătae *et al.* (2021) and Constantinescu *et al.* (2021).

The results obtained are mixed. A positive, but statistically insignificant relationship with ROA was identified between the ESG, ENV and SOC factors, while a significant and negative relationship was identified between GOV and ROA at the 0.05 level. ENV and SOC scores have a strong negative impact, the relationship being significant at the 0.01 level with ROE, while for ESG and GOV the relationship is negative and insignificant. Furthermore, ESG factors have a positive impact on the Tobin Q ratio at the 0.05 level, and ENV and SOC scores have a significant and positive impact at the 0.01 level with the Tobin Q ratio.

The results identified have an important implication for all stakeholders, as they suggest the level of involvement of companies in social and environmental activities and how their performance is affected. In addition, this study contributes to the literature by providing new insights into the link between the impact of ESG factors and the corporate performance of companies in the energy sector. On the other hand, this study can help investors and other interested parties have an overview of the business sector in which they want to invest.

This study also has some limitations. Firstly, the data is only collected for Europe, which only provides a narrow view, not a global view, and only for one industry, energy. Secondly, the number of companies reporting information on ESG data in Refinitiv Eikon is relatively small, especially for companies in Eastern European countries.

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