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IMPACT OF ESG REPORTING ON THE ROMANIAN CAPITAL MARKET

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Abstract: *Sustainable investments takes into account financial and non-financial criteria for the investment decision process. Among various reporting means, ESG reporting takes into account the business impact and performance regarding environment, society, and governance. Current study analyses the impact of ESG reporting on the Romanian capital market, using a sample of companies that voluntary discloses their ESG performance, prepared by Sustainalytics. Empirical results underline that a higher ESG score for the companies listed on Bucharest stock exchange is reflected in an increased value of the company, ESG ratings being viewed as a mean to measure the sustainability of the Romanian companies. Results of current research are similar to previous studies, which highlight positive market level effects of ESG reporting. Present study enriches existing knowledge by analysing the economic consequences of ESG reporting, focusing on a less analysed country and brings practical evidence regarding the benefits of its adoption.*

Key Words: *sustainability reporting, stock exchange, ESG reporting, company value, Tobin's Q*

JEL classification: M20, M40

Introduction

Corporate reporting has evolved from a primarily financial focus to encompassing non-financial dimensions like governance, CSR and sustainability, driven by both internal strategic decisions and external market dynamics (Radley, 2012). Latest developments shifted the global investments towards sustainable activities, which represent one third of the global assets (BVB, 2022a) taking into consideration mainly the ESG criterion (Matos, 2020). Moreover, at EU level, 83% of the European Bank for Reconstruction and Development (EBRD) investments in 2021 were aligned to sustainable criterion, as the EU aims to achieve net-zero greenhouse gas emissions by 2050, and redirects the investments towards sustainable activities (EC, 2022).

The capital market's emphasis on a company's ESG impact is driven by climate change (environmental concerns), intergenerational wealth inequality (social issues), and shifts in governance practices prompted by significant scandals (e.g., Enron, Volkswagen, Facebook) and financial crises. At EU level, various directives were adopted aiming to increase the relevance, consistency, transparency and comparability of non-financial information disclosure, endorsing the importance of disclosing environmental, social, and governance information.

Current research align to previous studies analysing the economic consequences of ESG reporting, herein the market level effects, measured using Tobin's Q. Moreover, it focuses on Eastern European countries, which were found to lack behind Western European ones as regards

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ESG reporting (Daugaard & Ding, 2022), more specifically on companies listed on Romanian Stock Exchange, as previous studies do not consider this country. Present study also aligns to previous research that uses ESG scores that are developed by international professional providers (e.g., Refinitiv Eikon, Bloomberg), and it uses the ESG scores computed by Sustainalytics.

Majority of previous studies highlight positive market level effects of ESG reporting, transposed into increased (i) market value of the company, (ii) company‘s stock market performance; and (iii) improved analysts' forecast accuracy. The effects of ESG reporting are higher for sensitive companies (Yoon *et al.*, 2018), state-owned companies, and for companies with weak information environment (Krueger *et al.*, 2021). Nevertheless, analysing the ESG reporting effects over time, results highlight that ESG reporting is not viewed as a mean to measure the long-term sustainability of the businesses (Do & Kim, 2020; Ersoy *et al.*, 2022; Rojo-Suárez & Alonso-Conde, 2023). ESG reporting can even have macroeconomic benefits, enhancing the living standards within a country – a higher ESG performance can result in the improvement of GDP per capita. (Zhou *et al.*, 2020).

The results of the current research highlight that a higher ESG score for the companies listed on Bucharest Stock Exchange (BSE) is reflected in an increased value of the company, ESG ratings being viewed as a mean to measure the sustainability of the Romanian companies. Obtained results are aligned to previous studies finding positive market level effects of ESG reporting, especially to those focusing on ESG score and performance and finding an improvement in the market value of the company (Yoon *et al.*, 2018; Chang & Lee, 2022; Zhang *et al.*, 2023).

In the view of shareholder theory, results of current research highlight that ESG reporting improves the company's value creation process, reducing information asymmetry, and improving the information environment of the companies. Moreover, present research confirms the expected potential effects of Corporate Sustainability Reporting Directive (CSRD) / European Sustainability Reporting Standards (ESRS) adoption on capital markets, expecting a positive market response to ESG performance (EC, 2022).

Present study brings various implication to literature and practice, contributing to current literature analysing the market level effects and economic consequence of ESG reporting. It is focused on the less explored region – Romania, as previous studies do not focus on this region, moreover Eastern European companies being identified as lagging Western European ones as regards ESG reporting (Daugaard & Ding, 2022). Similar to previous studies it uses an externally provided ESG score, developed by Sustainalytics for companies voluntarily joining BSE program of disclosing ESG performance for listed companies. The practical implications of current study, could serve the BSE in promoting its ESG program, obtained results offering listed companies' evidence of the potential advantages associated to voluntary ESG score disclosure.

The rest of the article contains the following: the second section presents the theoretical background and literature review, the third section presents the research design and hypothesis development, section four presents and discussed the obtained results, and fifth section exposes the conclusions, limitations, and future research directions.

2. Theoretical background and literature review

2.1. Theoretical background

Companies communicate with their shareholders and stakeholders through corporate reporting, which evolved from a purely financial perspective towards an integration of non-financial information (Radley, 2012). This was not only a decision taken by companies but also driven by the capital markets and investors – while the market value of a company is driven by tangible assets in 1975 (83% and 17% intangible assets), in 2010 the ration was reversed - 80% intangible assets and 20% tangible assets (Emperor, 2013). Corporate reporting includes but is not limited to the following dimensions: financial, governance, CSR and sustainability reporting (Faff, 2015).

Corporate Social Responsibility (CSR) and Sustainability reporting were considered two independent concepts – first one focusing on social and the second one on environment. The first sustainability report was developed in 1997 by company Shell, the Netherlands strongly promoting this concept. Additionally, the “triple bottom line” of sustainability reporting was considered to be environmental, social, and economic performance reporting, introduced also in 1997 by John Elkington’s book (1997): Cannibals with Forks - The Triple Bottom Line of 21st Century Business.

Nevertheless, companies from strong regulated markets like United States of America (USA) and Europe, used to disclose social and environmental information before 1980, due to regulatory and litigation pressure (Tschopp & Huefner, 2015). Adoption of non-financial reporting was on a voluntary basis, excepting few countries in Europe which mandated CSR reporting, like: Denmark, Norway, France, Belgium, United Kingdom (Lauesen, 2014; Bonson & Bednarova, 2015). Nowadays European Commission mandated non-financial and sustainability reporting for European companies, while companies based in China and USA, record a lower level of non-financial information presentation (Cheng & Saltzman, 2010).

In Europe, European Commission aiming to improve the transparency of large and listed companies, introduced the mandatory presentation of non-financial information (NFRD) through Directive 2013/34/EU amended through 2014/95/EU, 2017/C 215/01 and 2019/C 209/01 (EC, 2014; EC, 2017; EC, 2019). Through these Directives, EC aimed to increase the relevance, consistency, transparency, and comparability of non-financial information disclosure. Following climate change challenges and the European Green Deal, The Corporate Sustainability Reporting Directive (CSRD) was adopted through Directive 2022/2464 (EC, 2022). CSRD emphasizes the significance of disclosing environmental, social, and governance **(ESG) information**, aiming to enhance transparency and foster comparability across a diverse range of companies. Following CSRD, companies are required to include in their reporting the *Double materiality principle*; align to *European Sustainability Reporting Standards (ESRS)*: covering Environmental, Social, and Governance topics; provide *Third-party assurance* and publishing into a *digital format*, to facilitate automated reading.

As previously highlighted, at the EU level sustainability reporting gains traction, CSRD aiming to enhance and standardize sustainability reporting requirements for companies, as there is there is a need for an internationally accepted framework that could lead to uniformity (Bonson & Bednarova, 2015). The impact of the CSRD on capital markets is likely to be significant, with several potential effects: increased transparency; enhanced comparability; market response to ESG performance; investor preferences risk management; market innovation (EC, 2022).

To facilitate and guide the investments towards sustainable activities, the European Parliament and the Council adopted the Regulation (EU) 2020/852, named the “*taxonomy*”. In order to be considered a sustainable (EP, 2021), an activity must contribute to one of the six environment objectives: Climate change mitigation; Adaptation to climate change; Sustainable use and protection of water and marine resources; The transition to a circular economy; Pollution prevention and control; Protection and restoration of biodiversity and ecosystems, without harshening one in favour of the other (EP, 2021). Moreover, companies must follow the "*do not significant harm*" (DNSH) principle and the minimum requirements of OECD guidelines, UN Principles (UNP), International Labour Organization (ILO). Following CSRD, sustainability refers to environmental, social and human rights, and governance factors (EC, 2022).

It is being estimated that over $30 bn were responsible investments that considered the ESG criterion (Matos, 2020). The focus of the capital market mainly on ESG impact of the company, is determined by the climate change (***environment***), unequal wealth distribution between generations within society (***social***), and the changes in the governance environment, following major scandals (Enron, Volkswagen, Facebook, etc.) and financial crisis (***governance***). There is no consensus on the items that an ESG score should include, mainly since ESG is in continuous development. Nevertheless, in majority, the crucial issues considered by ESG are (LSEG, 2024; BVB, 2022a; EC, 2023):

- ***Environmental dimension***: climate change and carbon emissions; natural resource use, energy and water management; biodiversity and ecosystems; pollution and waste, eco-design and innovation;
- ***Social dimension***: workforce health and safety, diversity, and training; customer and product responsibility; community relations and charitable activities;
- ***Governance dimension***: shareholder rights; composition of board of directors (independence & diversity); management compensation policy; fraud and bribery; business ethics.

Bucharest Stock Exchange (BSE) aligns to the international trend on sustainability and implemented a guide regarding ESG reporting in 2022 together with the European Bank for Reconstruction and Development (BVB, 2022b). As stated by the EBRD, 83% of their 2021 investments considered sustainable criterion. This initiative aligns to the EU aim of redirecting investments towards sustainable activities (European Parliament, 2020). Following the elements presented above, current research will focus on the Romanian stock exchange market, analysing the market-level effects of ESG reporting for companies listed on BSE, which have joined the BSE program on publishing the ESG scores (BVB, 2022a).

2.2. Literature review

Precursory of studies analysing the market level effects of ESG reporting were those focusing on Corporate Responsibility Reporting (Klerk & de Villiers, 2012), environmental and social disclosure (Deegan, 2010), CSR (Dhaliwal *et al.*, 2012) and sustainability practices (Eccles *et al.*, 2014), their results highlighting a positive impact of these reporting's on the capital markets.

As regards ESG reporting, previous studies found, in majority, positive market level effects of ESG reporting. Therefore, ESG score and performance was found to (ii) improve the market value of the company (Yoon *et al.*, 2018; Zhou *et al.*, 2022; Chang & Lee, 2022; Zhang *et al.*, 2023), (ii) increases company's stock market performance (Sahut & Pasquini-Descomps, 2015; Deng & Cheng, 2019; Zhang *et al.*, 2023); (iii) improves analysts' forecast accuracy (Bernardi & Stark, 2018; Krueger *et al.*, 2021; Luo & Wu, 2022; Schiemann & Tietmeyer, 2022). Majority of studies finding a positive impact of ESG reporting on capital markets are focused on single market: China (Deng & Cheng, 2019; Zhou *et al.*, 2022; Luo & Wu, 2022) and South Korea (Yoon *et al.*, 2018; Chang & Lee, 2022). Nevertheless, part of them consider worldwide samples (Krueger *et al.*, 2021; Zhang *et al.*, 2023), or are focused on few developed economies (Sahut & Pasquini-Descomps, 2015; Schiemann & Tietmeyer, 2022).

If we look which dimension of the ESG score impacts the most the market value of the company, we observe that environmental performance positively impacts the company value (Garcia *et al.*, 2017). Additionally, we observe that:

- The positive impact of ESG score on company market value, is higher for environmental sensitive companies compared to non-sensitive ones (Yoon *et al.*, 2018).
- Mandating ESG disclosures positively impact the firm-level stock liquidity – with a stronger effect for state-owned companies, and for companies with weak information environment (Krueger *et al.*, 2021).

There are studies that analyse the market level effects of ESG reporting over the short and long term, finding that ESG reporting is not viewed as a mean to measure the long-term sustainability of the businesses:

- ESG performance has no effect in the short-run, while on the long term, better ESG performance results in lower value creation – therefore, (Rojo-Suárez & Alonso-Conde, 2023); the study focuses developed EU countries: Germany, France, Italy and Spain;
- ESG ratings decrease on the short term the company value (abnormal returns) become negative on the medium time horizon, after the third year (Do & Kim, 2020);
- ESG score enhance company's market value on the short term while in the mid-term it starts to erode the market value of the US companies (Ersoy *et al.*, 2022).

Nevertheless, the view regarding ESG reporting as not being a mean to measure the long-term sustainability of the businesses, might be reversed over time – similar to CSR reporting - when perceived as an agency cost, analysts produce pessimistic recommendations for companies with high CSR ratings in the early 1990s, but with a shift in more recent years, when analysts progressively assess these companies less pessimistically, they even assessing them optimistically (Ioannou & Serafeim, 2015).

If we look to the dimension of the ESG pillars, studies highlight that Social (Environmental) Pillar Score enhance (erodes) company's market value on the short term which in the mid-term starts to erode (enhance) the market value of the US companies (Ersoy *et al.*, 2022). Therefore, we can state that environmental reporting is viewed as the main trigger for the sustainability of the business, mainly due to the climate change aspects.

The market level effects of ESG reporting impacts differently the companies worldwide: mandatory ESG reporting increases company's stock prices and value, with a higher impact in the case of countries with strong demand for ESG information and in the case of companies that do not have disclosure incentives (Zhang *et al.*, 2023). Moreover, ESG adoption can also have macroeconomic effects, enhancing the living standards within a country - an increase of micro ESG performance can result in the improvement of GDP per capita. While Social (pillar) performance positively impact the GDP per capita in both developed and emerging economies, the Environmental and Governance (pillars) performance were found to positively impact the GDP per capita only in emerging countries (Zhou *et al.*, 2020).

Nevertheless, few studies found no significant influence of ESG reporting on company market performance and value (Garcia *et al.*, 2017; Junius *et al.*, 2020) nor on portfolio performance (Zehir & Aybars, 2020). Studies in this category focus mainly on emerging economies: ASEAN countries (Indonesia, Malaysia, Singapore, and Thailand) (Junius *et al.*, 2020) and BRICS countries (Brazil, Russia, India, China and South Africa) (Garcia *et al.*, 2017).

In conclusion, ESG reporting brings benefits in developed economies with well-established regulatory framework but only over the short term, as on the longer horizon, ESG reporting is not viewed as a mean to measure the long-term sustainability of the businesses. Nevertheless, this situation might change over time, similar to CSR reporting experience.

3. Research design & Hypothesis development results and discussion

3.1. Hypothesis development

Current study aims to explore the market-level effects of ESG reporting for companies listed on Bucharest Stock Exchange, and who enrolled in the ESG disclosure program on the Romanian capital market.

ESG reporting is used primarily by investors, which lately started to direct their investments towards sustainable investments, due to the financing allocation criterion towards sustainable investments that are taking into consideration the long-term value creation of the business. At global level, assets invested in funds that consider ESG criteria in the allocation of investments represent one third of the total global assets, and investment funds dedicated to ESG strategies have assets of over 2.2 trillion dollars (BVB, 2022a). In the EU landscape, the block aims to achieve net-zero greenhouse gas emissions by 2050, and redirects the investments towards sustainable activities (EC, 2022).

Shareholders theory presents that an organization is owned by shareholders who provide the company with financial capital and usually appoint a management team to manage the business (Speziale, 2019). This theory seeks the maximization of returning of investment and sees the financial capital as the most critical factor for the company. Based on studies, we observed that ESG reporting enhances the market level effects, being useful for investors and financial analysts.

Previous studies analysing ESG reporting highlight an enhancement in market level effects, results mainly observed in Asian countries like China (Deng & Cheng, 2019; Zhou *et al.*, 2022; Luo & Wu, 2022) and South Korea (Yoon *et al.*, 2018; Chang & Lee, 2022), or are focused on developed economies (Sahut & Pasquini-Descomps, 2015; Schiemann & Tietmeyer, 2022). In the case of emerging economies, ESG reporting was not found to enhances the market level effects, this being the case of ASEAN countries (Indonesia, Malaysia, Singapore, and Thailand) (Junius *et al.*, 2020) and BRICS countries (Brazil, Russia, India, China and South Africa) (Garcia *et al.*, 2017). Therefore, we can conclude that emerging economies might really benefits out of ESG reporting, as companies in those regions do not have a strong market regulation. Consequently, following the above observations current study focuses on an emerging country from Eastern Europe: Romania, which embarked in the ESG journey by launching the voluntary adoption of ESG scores for companies listed on the Bucharest Stock Exchange. Even if Romania is still an emerging economy, it is part of the EU, mandating also the NFRD and CSRD for publicly listed companies. Therefore, we expect that: ***Companies having higher ESG scores record enhanced company value*** (research hypothesis).

In the view of shareholder theory, we expect that higher ESG scores enhance company value and reduces information asymmetry, improving company's information environment.

3.2. Research design

As highlighted in previous studies the main focus of studies analysing ESG reporting, was mainly on: ***China*** (Deng & Cheng, 2019; Luo & Wu, 2022; Zhou *et al.*, 2022), ***South Korea*** (Yoon *et al.*, 2018; Chang & Lee, 2022), ***developed economies*** (Sahut & Pasquini-Descomps, 2015; Schiemann & Tietmeyer, 2022), ***emerging economies outside Europe*** - ASEAN countries: Indonesia, Malaysia, Singapore, and Thailand (Junius *et al.*, 2020) and BRICS countries - Brazil, Russia, India, China and South Africa (Garcia *et al.*, 2017). Even though there are studies considering worldwide samples (Krueger *et al.*, 2021; Zhang *et al.*, 2023), there is no focus on Eastern Europe. Moreover, ESG reporting has an uneven distribution at European level, Eastern Europe lagging Western European countries (Daugaard & Ding, 2022). Consequently, current research aims to bring knowledge to existing literature by focusing on Romania (Eastern Europe).

Aim of current study is to explore the impact of ESG reporting on the companies listed on Bucharest Stock Exchange, which voluntarily joined the program of assessing and publishing their ESG score (BVB, 2022b). The ESG scores are prepared by Sustainalytics and published for on th BSE in the "*research hub*" section. There are twenty-two listed companies that enrolled in the program and have published the ESG related scores.

Majority of previous studies focusing on ESG reporting, are using score or indexes that are prepared by *international professional providers*: ***Thomson Reuters / Refinitiv Eikon*** (Sahut & Pasquini-Descomps, 2015; Garcia *et al.*, 2017; Zehir & Aybars, 2020; Zhou *et al.*, 2020; Ersoy *et al.*, 2022; Rojo-Suárez & Alonso-Conde, 2023), ***Bloomberg*** (Junius *et al.*, 2020; Luo & Wu, 2022; Schiemann & Tietmeyer, 2022), or *national professional providers*: ***SynTao Green Finance*** (Deng & Cheng, 2019; Zhou *et al.*, 2022) and ***Korea Corporate Governance Service*** (Yoon *et al.*, 2018; Do & Kim, 2020). The calculation methods of ESG score are complex, being recommended to use a external provider in the research. Our research aligns to this trend by using externally provided ESG scores, by ***Sustainalytics*** being a leading independent ESG and corporate governance research, ratings and analytics firm that supports investors.

Following previous literature analysing the market level effects of ESG reporting we learn that the most encountered mean is the company market value (Do & Kim, 2020; Junius *et al.*, 2020; Zhou *et al.*, 2022; Chang & Lee, 2022; Ersoy *et al.*, 2022), more specifically Tobin's Q (Junius *et al.*, 2020; Chang & Lee, 2022; Zhou *et al.*, 2022). Tobin's Q represents the company's assets market valuation compared to their book value, as the accounting value embeds only the financial perspective (capital), while the market value embeds other non-financial elements (Daske *et al.*, 2008; Barth *et al.*, 2017). Tobin's Q is computed based on Daske *et al.* (2008), as total assets (TA) minus book value of equity (BvE) plus market value of equity (MvE), scaled by total assets:

$$\mathbf{Tobin's\_Q(x)_t = [TA(x)_t - BvE(x)_t + MvE(x)_t] / TA(x)_t} \quad \mathbf{(1)}$$

In order to test the research hypothesis of current study - ***Companies having higher ESG scores record enhanced company value*** – we will use the following regression model:

$$\mathbf{Tobin's\_Q(x)_t} = \beta_0 + \beta_1 * ESG\ (x)_t + \beta_2 * Company\_size(x)_t + \beta_3 * Leverage(x)_t + \beta_4 * \varepsilon(x)_t \quad \mathbf{(2)}$$

Following previous studies, we also use the company size and leverage (assets divided to equity), as control variables in our regression model, retrieved from Refinitiv Eikon, together with the necessary variables to compute Tobin's Q. The ESG score is externally provided by Sustainalytics, elaborated for the companies listed on Bucharest Stock Exchange (BVB, 2024):

- *ESG Risk Score*: quantifies the extent of a company's unmanaged risks. A lower score indicates a lesser amount of unaddressed ESG risks.

- *ESG Risk Ranking Score*: Like the ESG Risk Score, this measure evaluates the magnitude of a company's unmanaged risks. A lower score reflects a smaller quantity of unaddressed ESG risks.
- *ESG Exposure*: assesses how much a company is exposed to various material ESG issues. Sustainalytics' exposure score considers factors such as subindustry and company-specific characteristics, such as its business model. A higher score indicates a greater exposure to material ESG issues.
- *ESG Management*: refers to the effectiveness of a company's efforts in addressing relevant ESG issues. It evaluates the strength of a company's ESG programs, practices, and policies. A higher score signifies superior performance in managing ESG risks.
- *ESG Momentum*: tracks ESG Risk Score changes. A negative score means a better risk assessment. is not applicable if the issuer has been newly added to the coverage list in the past year or if there has been a change in the report type from the previous year.

In our study we will use the Management ESG Score, as it represents the company's performance on the environmental, social and governance pillars, and how the companies are managing the material ESG issues. Further on we will present the obtained results and discussion.

4. Results and discussion

Analysing our sample of twenty-two (22) companies we observe that 17 (77%) of them operate in sensitive industries – 12 (55%) in environmental sensitive industries and 5 (22%) in social sensitive industries. We observed in previous studies that the impact of ESG reporting on company market value, is higher for environmental sensitive companies compared to non-sensitive companies (Yoon *et al.*, 2018). Moreover, it was observed that companies in sensitive industries tend to disclose more information compared to companies from non-sensitive sectors (Buitendag *et al.*, 2017; Garcia *et al.*, 2017; Pistoni et al, 2018; Nicolo *et al.*, 2019; Songini *et al.*, 2020).

The sensitive industries can be split in two main categories: environmental and social sensitive (Alonso-Almeida *et al.*, 2014). Environmental sensitive industries are those that have an operation risk of polluting the environment, produce greenhouse gas emissions or/and toxic waste, like (but not limited to): energy; oil & gas; utilities; chemicals; materials/resources; and transport. The first companies which disclosed their environmental impact were those operating in oil and gas industry in the 1980s (Patten, 1991). Companies operating in social sensitive industries, have a low environmental risk, but they encounter legitimacy or credibility problems, like those in the financial sector (Mukherjee & Nuñez, 2019) which was impacted by the last economic crisis (Alonso-Almeida *et al.*, 2014). Moreover, the NFRD and CSRD are also a response of EU in implementing "*The Green Deal*", which aims to achieve net-zero greenhouse gas emissions by 2050, and redirects the investments towards sustainable activities (EC, 2022).

As regards the descriptive statistics related to ESG score for the analysed companies, we present them in the upcoming table (Table 1). We observe that the average ESG score for the analysed sample is twenty-two, being a good score – symbolizing that the companies have few unmanaged ESG risks. Nevertheless, compared to their peers in industry, companies listed on BSE exhibit a medium exposure the material ESG issues (ESG Exposure score average of 42). In consequence, the management of the ESG related issues seems to be also medium, as the ESG Management score average is of forty-nine (49).

Table 1. ESG score – descriptive statistics

	Average	Std. Dev.	Min.	Max.
ESG Risk Score	22.1	*5.8*	*12.8*	*35.8*
ESG Risk Ranking Score	31%	*26%*	*2%*	*94%*
ESG Exposure	41.6	*13*	*23*	*68.2*
ESG Management	48.9	*13.8*	*23*	*75.6*

Source: authors' projection

To explore the impact of ESG reporting on company value - ***Companies having higher ESG scores record enhanced company value*** - we run the linear regression model defined above.

Following data collection from Refinitiv Eikon, for one company in the sample, the financial information was not available. Therefore, we excluded the company from the sample in our regression analysis. Before the regression analysis we perform the normality test for our main dependent (Tobin's Q) and independent variable (ESG Management). Test results highlight that the values for these two variables are normally distributed, as the Significance of Shapiro-Wilk test is above 5% (please see table below). Following Pearson correlation test, we did not found any significant correlation between any of the variables in the model (please see Appendix 1).

Table 2. Tests of Normality – Tobin's Q and ESG Management

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	*Sig.*	*Statistic*	*df*	*Sig.*
Tobin's Q	0.093	22	0.200*	0.985	22	0.974
ESG Management	0.178	21	0.080	0.927	21	0.121

*. This is a lower bound of the true significance. a. Lilliefors Significance Correction

Source: authors' projection

In our regression analysis we used a standard regression analysis, obtaining the below results. Moreover, we checked our model for (i) normality of residuals, finding that they are normally distributed, and (ii) heteroskedasticity, finding that our model does not suffer from it.

Table 3. Regression model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	*F Change*	*df1*	*df2*	*Sig. F Change*
0.550[a]	**0.303**	0.180	0.4397757	0.303	2.460	3	17	0.098

a. Predictors: (Constant), ESG Management, Company size, Leverage

Source: authors' projection

Table 4. ANOVA[a] test for the regression model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.427	3	0.476	2.460	**0.098**[b]
Residual	3.288	17	0.193		
Total	4.715	20			

a. Dependent Variable: Tobins_Q b. Predictors: (Constant), ESG Management, Company size, Leverage

Source: authors' projection

Table 5. Regression model[a] coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence interval for B		Collinearity Statistics	
	B	***Std. Error***	***Beta***			***Lower***	***Upper***	***Tolerance***	***VIF***
(Constant)	1.375	0.368		3.734	0.002	0.598	2.153		
ESG Management	0.015	0.009	0.428	1.692	**0.100**	-0.004	0.033	0.640	1.562
Company size	-0.173	0.064	-0.766	-2.709	0.015	-0.308	-0.038	0.513	1.949
Leverage	0.037	0.032	0.274	1.169	0.258	-0.030	0.103	0.748	1.337

a. Dependent Variable: Tobins_Q

Source: authors' projection

Following the results from the above tables, we highlight that our regression model is statistically significant at 10% (Table 4 – ANOVA test, Sig = 0.098). The relation between ESG Management score and Tobin's Q is direct (positive), the related coefficient of 0.015 being statistically significant at 10% (Sig. = 0.100). Therefore, ***companies recording a higher ESG Management score have a higher company value*** – thus, **we accept the issued hypothesis**. Moreover, we can observe that 30% (R square = 0.303) of the variability of company value (Tobin's Q) is explained by our model. Nevertheless, it remains a slightly high difference between R square and Adjusted R square (0.180), due to the small sample size (with the increase of sample size, these two values converge).

Results of present study are aligned to those finding positive market level effects of ESG reporting, more specifically those focusing ESG score and performance which was found to improve the market value of the company (Yoon *et al.*, 2018; Zhou *et al.*, 2022; Chang & Lee, 2022; Zhang *et al.*, 2023). Our study also focuses on a single market (Romania) in Eastern Europe, as previous studies do not focus on this region and even studiers using a worldwide sample do not consider Romanian companies in their samples (Krueger *et al.*, 2021; Zhang *et al.*, 2023). Nevertheless, many previous research finding a positive impact of ESG reporting on capital markets are focused on single market – our study being aligned to this approach. Additionally, this research align to previous literature that uses ESG score or indexes that are prepared by international professional providers: Thomson Reuters / Refinitiv Eikon (Sahut & Pasquini-Descomps, 2015; Garcia *et al.*, 2017; Zehir & Aybars, 2020; Zhou *et al.*, 2020; Ersoy *et al.*, 2022; Rojo-Suárez & Alonso-Conde, 2023), Bloomberg (Junius *et al.*, 2020; Luo & Wu, 2022; Schiemann & Tietmeyer, 2022).

Therefore, a higher ESG score for the companies listed on Bucharest stock exchange is reflected in an increased value of the company, concluding that the related benefits of disclosing ESG information exceeds the proprietary costs. Through the lenses of ***shareholder theory***, obtained results underline that ESG improves value creation process of the company and reduces information asymmetry, improving the information environment of the companies. This also strengthens the importance of ESG scores usage by the investors, ESG ratings being viewed as a mean to measure the sustainability of the Romanian companies. Moreover, current study contributes to the potential effects of CSRD / ESRS adoption on capital markets, which expect a positive market response to ESG reporting (performance) (EC, 2022).

5. Conclusions, limitations, and future research

Current study analyses the capital market effects of ESG reporting focusing on companies listed on Romanian Stock Exchange, as previous studies do not consider this country, and Eastern European countries are lacking Western European ones as regards ESG reporting (Daugaard & Ding, 2022). As part of the EU, Romanian publicly listed companies are also required to follow the NFRD and CSRD (EC, 2022). Companies listed on Bucharest Stock Exchange already issued a non-financial report, following NFRD. Moreover, part of them voluntarily joined the BSE program of assessing and publishing their ESG score (BVB, 2022b). The European Union is targeting net-zero greenhouse gas emissions by 2050 and aims to shift the investments towards sustainable activities (EC, 2022).

Previous studies found positive market level effects of ESG reporting, improving the market value of the company, increasing the company‘s stock market performance, and improving analysts' forecast accuracy. Additionally, most of the studies finding a positive impact of ESG reporting on capital markets are focused on single market, our research following a similar approach. Thus, we focus our research on Eastern Europe, a region which is not explored nor even in previous studies focusing on worldwide samples.

Current research highlights that 77% of the companies in the analysed sample operate in sensitive industries - (55%) in environmental sensitive industries and 5 (22%) in social sensitive. Previous literature highlights that companies operating in sensitive industries tend to disclose more information compared to companies from non-sensitive industries (Buitendag *et al.*, 2017; Pistoni et al, 2018; Nicolo *et al.*, 2019; Songini *et al.*, 2020). Similar to previous research, current study uses ESG score that is developed by international professional providers (Refinitiv, Bloomberg).

Empirical results underline that a higher ESG score for the companies listed on Bucharest stock exchange is reflected in an increased value of the company, ESG ratings being viewed as a mean to measure the sustainability of the Romanian companies. Therefore, ESG reporting is considered also in case of BSE an important factor for investors to redirect their investments into sustainable ones. Obtained results are aligned to previous studies finding positive market level effects of ESG reporting, more specifically with those focusing on ESG score and performance which was found to improve the market value of the company (Yoon *et al.*, 2018; Zhou *et al.*, 2022; Chang & Lee, 2022; Zhang *et al.*, 2023).

In the view of ***shareholder theory***, results of current research highlight that ESG reporting improves the company's value creation process, reducing information asymmetry, and improving the information environment of the companies. Moreover, present research confirms the expected potential effects of CSRD / ESRS adoption on capital markets, expecting a positive market response to ESG performance (EC, 2022).

Present research ***contributes to literature*** by analysing the market level effects of ESG reporting, contributing to the economic consequence of ESG reporting, focusing on the less explored region – Romania, using an externally provided ESG score – similar to previous studies. By joining the ESG reporting program of BSE, companies can improve their company value, attracting in consequence more investments or a reduced cost of capital, proving alignment to the EU aim of redirecting the investments in sustainable activities. Current study ***contributes to practice***, as BSE could also use the present results to endorse their ESG program, providing evidence to listed companies with the potential benefits of joining the voluntary ESG disclosure.

Even though current study brings relevant implication for research and practice, it has various ***limitations***, as the size of analysed sample is low and considers only one year of adoption. Further research should consider using a matched sample (companies listed on BSE that voluntary adopted ESG reporting vs. non-adopters) in order to isolate the effect of ESG reporting, or even explore whether or not company value increased after voluntary ESG reporting adoption.

Appendix

Appendix 1. Pearson Correlation test

		Tobins_Q	ESG Management	Company size	Leverage
Pearson Correlation	Tobins_Q	1.000	0.039	-0.373	-0.001
	ESG Management	0.039	1.000	0.598	0.251
	Company size	-0.373	0.598	1.000	0.499
	Leverage	-0.001	0.251	0.499	1.000
Sig. (1-tailed)	Tobins_Q	.	0.433	0.048	0.499
	ESG Management	0.433	.	0.002	0.136
	Company size	0.048	0.002	.	0.011
	Leverage	0.499	0.136	0.011	.
N	Tobins_Q ; ESG Management; Company size; Leverage = 21				

Source: authors' projection

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