

# The Impact of Sustainability Performance on Company Profitability in the COVID-19 Pandemic and Post-Pandemic Context

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**Abstract.** *The current context, dominated by climate change, resource constraints, health and financial crises, the need for continuity and increased profitability of companies, increasing stakeholder interest in environmental risks and non-financial information, requires addressing business from the perspective of environmental, social and governance standards. Companies will therefore integrate their sustainability performance objectives, complementary to their profitability objectives. Thus, the objective of this research is to measure the impact that sustainability performance has on company profitability. The research approach is two-dimensional. The first dimension considers the literature review on conceptual approaches specific to environmental, social, governance standards. The results highlighted the upward trend and the diversity of facets related to environmental, social, governance standards. The second dimension is a quantitative research that aims to measure the impact that sustainability performance (ESG score) has on the profitability of listed companies in Europe. The research data was collected for the period 2020-2022 from the Refinitiv database (LSEG Data & Analytics). The results revealed an increase in interest in sustainability performance of listed companies in Europe, both from the perspective of the reporting companies and in terms of the global average ESG score, during the COVID-19 pandemic and post-pandemic. From the perspective of the regional affiliation of the reporting companies, Southern Europe is the best performing pole in terms of average ESG score, followed by Western Europe, Eastern Europe, Central Europe and the last position is occupied by Northern Europe. The results also showed that the ESG score has a positive but insignificant influence on the profitability of the sampled companies. This research complements the literature, given the topicality and importance of ESG issues, but is also relevant for stakeholders interested in the sustainability of companies' business.*

**Keywords:** Europe, ESG score, return on assets (ROA), listed companies, stakeholders, regression model

## Introduction

Economic turmoil, business environment dynamics, the rise and diversity of stakeholder information needs, climate change, the multidimensional consequences of the COVID-19 pandemic and post-pandemic period call for an innovative approach at both international and national levels.

Against the backdrop of the awareness of global issues and the impact of economic-related risks on the environment, the application of sustainable practices in the context of environmental, social and governance (ESG) standards is the focus of interest at both macro and micro levels.

Thus, the efforts of governmental authorities, socio-economic and professional circles have resulted in the development of a regulatory framework that contributes to the sustainable development of companies, and thus of society as a whole. These are complemented by companies

aligning their internal rules with ESG regulations in their strategies, setting ESG targets and reporting ESG information in a relevant, credible and comprehensive manner.

From this perspective, non-financial company information will be of increasing interest to stakeholders, particularly investors. Therefore, companies will integrate sustainability performance objectives complementary to financial performance objectives.

In this context, the objective of the research is to measure the impact that sustainability performance has on the profitability of companies. The research approach considers companies listed on European stock exchanges and disseminating information on sustainability performance in the pandemic and post-pandemic period.

Although the implementation of ESG standards in corporate decision-making is supported and promoted at international and European level, disparities in terms of geographical area, country development, financial system, financial resources and their allocation, economic and social stability, culture, consumption habits, create difficulties in addressing ESG in a homogeneous manner. However, there is an evolution and a concern for actions that support the sustainable development objectives of companies. These efforts generate both costs and subsequent rewards for companies.

The paper is structured in the following sections: the first section presents the literature review; the second section is devoted to the research methodology, and is followed by the results and discussion, the third section. The last section is devoted to conclusions, research limitations and future research directions.

## Literature review

Within the literature, sustainability is of increasing interest and is approached from multiple perspectives. In recent years, stakeholders have developed an increased interest in risks associated with environmental or other non-financial factors, which has also led to higher expectations for effective reporting by organisations. The latter report their performance on such risks through three categories: environmental, social and governance (ESG) (Aydognmus et al., 2022). The amount of information disclosed by companies has seen a significant increase, for both mandatory and voluntary reasons, leading them to prepare various reports, from traditional ones (annual financial reports) to sustainability reports and integrated reports (Cortesi and Vena, 2019). Information is considered to be relevant if it can make a difference in making investment decisions, and when capital market participants perceive that information in financial reports is insufficient, they will seek other sources of information, such as non-financial reports (Permatasari and Narsa, 2022).

Stocken (2012) states that investors are the main beneficiaries of accounting information. Another perspective is that supported by stakeholder theory (Freeman, 2001), which brings to the forefront the idea that successful organisations are more sustainable in that they are able to align the interests of all stakeholders, focusing not only on maximising investor returns but also on the interests of other stakeholders. Moreover, other authors, such as Zamil et al. (2021), argue that other stakeholders, such as employees, customers, suppliers or society, gain from information transparency. However, companies that voluntarily publish sustainability reports incur additional costs, be it separate reports, or integrated reports that involve publishing sustainability indicators together with the annual report (Landau et al., 2020).

Chelli et al. (2018) find that the credibility of reporting is due to a greater extent to legislation enacted by the government than to market mechanisms promoted by stock exchanges. Effects such as inaccurate, inconsistent or incomparable information that voluntary reporting might

have, have led many countries to call for regulations in this regard. Thus, the quality of voluntarily reported non-financial information prompted the development of EU Directive 95/2014, which obliges large companies to publish non-financial information and aims to increase corporate accountability, transparency, and comparability of information with stakeholders (Aureli et al., 2020). In a different approach, Bigelli et al. (2023) argue that mandatory reporting on social and sustainability issues may reduce or even negate the influences that board characteristics (such as gender, cultural, board size) may have on ESG policies, whereas as long as companies report voluntarily, the choice to excel on ESG factors could be significantly determined by board characteristics.

Other authors consider that sustainability goals are contingent on the resources available to particular governments and argue that the contributions of multinational corporations are critical to sustainability success (Krasodomska et al., 2023).

Olsen et al. (2021) argue that the dissemination of ESG information has increased in popularity in recent years, and Yoon et al. (2018) state that organisations around the world are voluntarily engaging in ESG practices, indicating that they could benefit from economic rewards by carrying out such activities. Patten and Zhao (2014) propose three possible rewards on disseminating environmental, social and governance issues: attracting customers, improving corporate reputation and targeting socially responsible investors.

A concern of recent years in both academia and business has been the impact of ESG performance on firm value and profitability, and more recently, the COVID-19 pandemic and the global health crisis, through their impact on demographic change and social issues, have affected stock market returns (Aydognmus et al., 2022). Moreover, the pandemic has also had devastating effects on the labour market (Petts et al., 2021).

Investment decisions are influenced not only by financial parameters, but also by the impact on environmental, social and governance factors (Bigelli, et al., 2023). The main determinant of responsibility for ESG practices internationally is considered to be differences between countries in terms of development, culture, legal system, but also religion (Pizzi et al., 2022 and Hunjra et al., 2021). For Liang and Renneboog (2017) ESG performance is closely related to the legal framework in the companies' home country. The study by Mervelskemper and Streit (2017) indicates a stronger influence on the ESG score when a company publishes any type of sustainability report.

The identification of correlations between ESG standards and the financial success of organisations started as early as the 1970s (Friede et al., 2015). Research results from 2200 papers revealed that about 90% of them showed a favourable relationship between ESG scores and the financial performance of firms. Diametrically opposite, Barnett (2007), finds it reasonable to expect that investing in CSR (Corporate Social Responsibility) will have a negative impact on the financial performance of organizations due to the redirection of funds to other stakeholders at the expense of shareholders.

## Methodology

In order to achieve the research objective of measuring the impact of sustainability performance (ESG score) on company profitability from the two perspectives: the influence of ESG score on profitability and its significance, we used quantitative research methodology. We also used regression modelling (linear regression on panel data) for the dependent variable and a model for the independent variable.

The sustainability score (ESG score) is an indicator for analysing the soundness of a company in relation to the attention paid to environmental, social and governance aspects, which does not replace the traditional credit rating but complements it (Borgi et al., 2022). The ESG score is an essential tool to assess a company's ethical and sustainability performance, and the range in which this rating can fall is 0-100 units (LSEG, 2023).

In terms of the sample, we selected companies listed on stock exchanges operating in Europe from the Refinitiv database for the period 2020-2022, reference currency EUR, which generated a sample of 11809 companies. To ensure comparability of information, we filtered out companies with ESG scores in each year of the 2020-2022 range, and obtained a sample of 2435 companies (Table 1).

**Table 1. Sample data**

|                                                        | Sample    |
|--------------------------------------------------------|-----------|
| Period                                                 | 2020-2022 |
| Number of companies                                    | 2435      |
| Number of countries                                    | 27        |
| Total observations                                     | 7017      |
| <i>Number of observations in relation to region</i>    |           |
| Central Europe                                         | 1620      |
| Eastern Europe                                         | 156       |
| Northern Europe                                        | 1686      |
| Southern Europe                                        | 720       |
| Western Europe                                         | 2835      |
| <i>Number of observations related to EU membership</i> |           |
| EU Member States                                       | 4090      |
| Non-EU countries                                       | 2927      |

Source: Authors own research.

The option for the period 2020-2022, considered the inclusion and analysis of information reported by the sampled companies, both during the period of the COVID-19 pandemic and post-pandemic.

The data selected for extraction was based on the following indicators: ESG score, net income after tax, total assets reported.

The last two indicators, net income after tax and total assets reported, are included in the calculation of the ROA (Return on Assets) profitability indicator, which will be the dependent variable of the study.

In the literature, Return On Assets (ROA) is an indicator that reflects the profitability of assets (Giannopoulos et al., 2022; Naeem et al., 2021; Saygili et al., 2021).

Return on assets (ROA) is calculated as the ratio of net profit to total assets:

$$ROA = (\text{Net Income}) / (\text{Total Assets})$$

Thus, for the regression model, we considered:

ROA = dependent variable;

ESG score = independent variable;

Log(TASST) = control variable.

Companies that did not provide information on ESG score, Net Profit or Total Assets, the latter two being the indicators underlying the determination of the ROA profitability indicator, were excluded from the regression model.

The variables used in the regression model are shown in Table 2.

**Table 2. Summary of variables**

| Variable             | Description/ Formula      |
|----------------------|---------------------------|
| Dependent variable   |                           |
| <i>ROA</i>           | Net Income / Total Assets |
| Independent variable |                           |
| <i>ESG Score</i>     | Refinitiv Score           |
| Control variable     |                           |
| <i>Log(TASST)</i>    | Logarithm of Total Assets |

Source: Authors own research.

The analysis of the average ESG score and the average ROA profitability indicator for the period 2020-2022 is shown in Table 3. Thus, the average ESG score is 49.93 and the average ROA profitability indicator is 1.06%. The average ESG score highlights that most of the companies in the sample analysed are in the top half of the ranking, with scores below 50. However, more than 49% of the companies score well on ESG during the period under review and have above average transparency on ESG disclosure.

We have also presented the minimum and maximum limits of the variables, with the ESG score showing a minimum of 0.72 and a maximum of 95.76, and the ROA indicator showing a minimum of -1244.75% and a maximum of 192.30%.

As for the control variable, i.e. company size, the average recorded is 7.40, with a minimum of -2.14 and a maximum of 14.82.

We also consider that the standard deviation illustrates that the sample population does not exhibit high volatility.

**Table 3. Descriptive statistics**

|            | N    | Minimum            | Maximum            | Mean               | Std. Deviation     |
|------------|------|--------------------|--------------------|--------------------|--------------------|
| ESG        | 7064 | 0,729778334177870  | 95,765545339710300 | 49,931124186959300 | 21,347249006510100 |
| ROA        | 7253 | -1244,75%          | 192,30%            | 1,0648%            | 27,90126%          |
| Log(TASST) | 7253 | -2,141428971711240 | 14,829222998214600 | 7,406019243682380  | 2,189868444850680  |
| Valid N    | 7017 |                    |                    |                    |                    |

Source: Authors own research.

Many authors use ROA as the dependent variable and company size as the control variable (Aydogmus et al., 2022; Giannopoulos et al., 2022; Naeem et al., 2022).

To achieve the research objective, we constructed the following regression model:

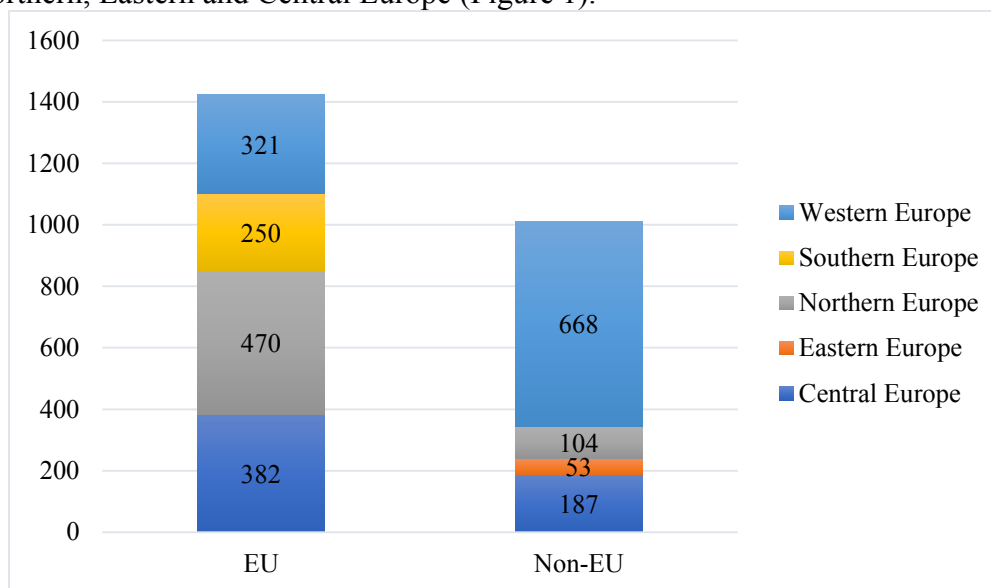
$$ROA_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 \log(TASST)_{it} + \varepsilon_{it}, \text{ where:}$$

- $ROA_{it}$  is the dependent variable;
- $ESG_{it}$  is the independent variable;
- $\log(TASST)_{it}$  is the control variable;
- $\varepsilon_{it}$  is the error term for firm i in period t.

To process the data we used the statistical software SPSS (Statistical Package for the Social Sciences) and the spreadsheet program Microsoft Excel.

## Results and discussions

The analysis of companies' ESG scores by European Union (EU) membership shows that 1423 of the companies in the sample, or 58.4%, belong to the EU area. A significant number, i.e. 668 companies with ESG scores but not belonging to the EU, belong exclusively to the UK and represent 27.4% of the sample, with the difference of 14.2% representing other non-EU companies located in Northern, Eastern and Central Europe (Figure 1).



**Figure 1. ESG score of companies in relation to the membership of companies in the European Union, 2022**

Source: Authors own research.

The classification of companies by ESG score obtained, structured in the four categories according to intervals, is shown in Table 4. As for the companies that did not submit ESG score information, they were not included in the calculation basis for Table 4 in the years when reporting was not carried out.

**Table 4. Ranking of companies according to ESG score**

| ESG Score Range | Description                                                                                                        | Number of companies in the sample |      |      |
|-----------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------|------|------|
|                 |                                                                                                                    | 2020                              | 2021 | 2022 |
| 0-25            | Poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.     | 382                               | 378  | 344  |
| 26-50           | Satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly. | 767                               | 829  | 817  |
| 51-75           | Good relative ESG performance and above-average degree of transparency in reporting material ESG data publicly.    | 822                               | 883  | 984  |
| 76-100          | Excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.        | 271                               | 297  | 290  |

Source: Refinitiv.

In terms of the number of companies reporting ESG scores for the years under review, i.e. 2020-2022, an upward trend can be observed in Table 5, both from the perspective of companies reporting such data and in terms of the overall average ESG score. The upward trend could be explained by the COVID-19 prevention measures adopted by companies during the pandemic period, but also by the increasing investor interest in companies' sustainable approach and long-term performance.

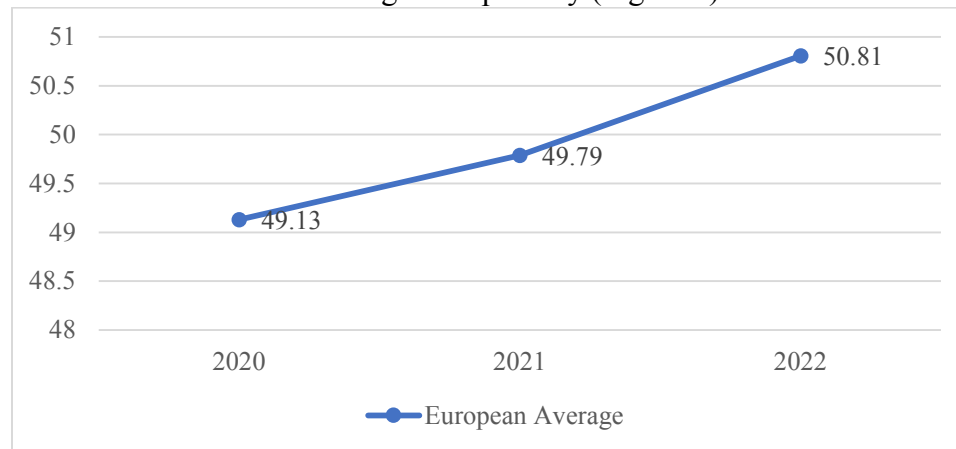
Western Europe has the highest share of ESG score reporting in the sample, with more than 40% over the period analysed. It is followed by Northern and Central Europe, which account for around 23-24% of the sample each. Southern Europe occupies just over 10% of the sample and the ranking closes with Eastern Europe at just over 2%.

**Table 5. Evolution of the ESG score at European level between 2020-2022**

| Year                | 2020                      |                  | 2021                      |                  | 2022                      |                  |
|---------------------|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|
| Number of companies | 2242                      |                  | 2387                      |                  | 2435                      |                  |
| Number of countries | 25                        |                  | 26                        |                  | 27                        |                  |
| Global average      | 49,13                     |                  | 49,79                     |                  | 50,81                     |                  |
| Regions             | Percentage of sample 2020 | ESG 2020 average | Percentage of sample 2021 | ESG 2021 average | Percentage of sample 2022 | ESG 2022 average |
| Central Europe      | 23,10%                    | 48,33            | 23,25%                    | 48,99            | 23,37%                    | 50,25            |
| Eastern Europe      | 2,23%                     | 48,85            | 2,22%                     | 49,63            | 2,18%                     | 50,97            |
| Northern Europe     | 24,40%                    | 45,00            | 23,92%                    | 45,83            | 23,57%                    | 47,18            |
| Southern Europe     | 10,08%                    | 59,56            | 10,31%                    | 60,21            | 10,27%                    | 60,96            |
| Western Europe      | 40,19%                    | 49,51            | 40,30%                    | 49,94            | 40,62%                    | 50,65            |

Source: Authors own research.

At European level, the average ESG score in 2020 and 2021 is above 49 points, which represents a satisfactory ESG level and moderate transparency in the dissemination of relevant ESG data. The year 2022 shows a better score, with an increase of 2.05% compared to the previous year, i.e. an ESG score of 50.81 points. This value ranks the average at the next higher level, implying a good ESG level and above average transparency (Figure 2).



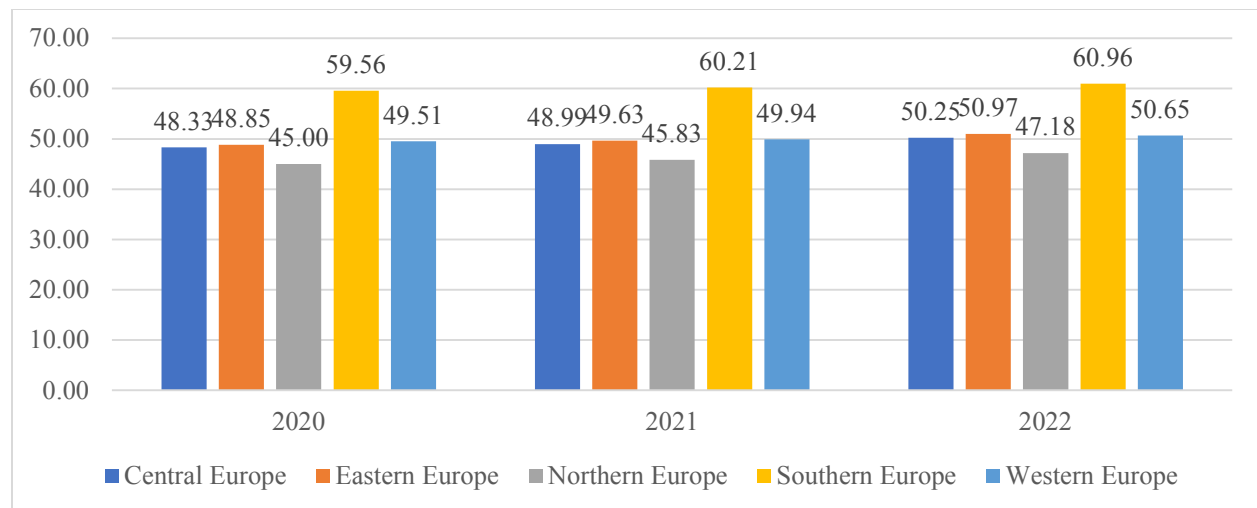
**Figure 2. Evolution of the average ESG score across Europe over the period 2020-2022**

Source: Authors own research.

Expanding the analysis to the geographical regions of Europe (Table 5), we identify some differences. Southern Europe is the best performing pole in terms of average ESG score, but occupies just over 10% of the sample. The next highest ranking is Western Europe which includes a significant share of companies reporting ESG score (40.19%). The next lowest in terms of average ESG score is Eastern Europe with the lowest share in the sample (2.23%) and Central Europe with 23.10% of the sample. At the other end of the scale is Northern Europe, which ranks about 4 points below the global average in each year under analysis.

The high ESG score in Southern and Western Europe could be explained by the level of development of the component countries, the age of EU membership, the culture of sustainability, which generates companies' compliance with European and local ESG regulations.

As for the ESG score reported by the small number of companies in Eastern and Central Europe, the arguments could be the communist history of the component states, the relatively recent accession to EU membership, the level of economic development of the states, government policies on ESG. Thus, the introduction of a new paradigm implies harmonising local regulations with those of the European Union, building a framework for non-financial reporting, opening up companies to mandatory and voluntary non-financial reporting, transparency. In the case of Northern Europe, although it includes traditional EU member states, the low level of ESG score could be explained by geographical particularities and the culture of sustainability that provides the natural framework in which companies operate.



**Figure 3. Evolution of the average ESG score across Europe's geographical regions between 2020-2022**

Source: Authors own research.

It is considered that for an efficient allocation of capital into the company's assets, it is ideal that the ROA indicator is positive and registers as high as possible (Țilică and Ciobanu, 2019).

It can be seen that the overall average of the ROA indicator in the period 2020-2022 is below the 3% threshold, recording a maximum of 2.69% in 2021 and a minimum of -0.37% in 2022. Extending the analysis to the geographical regions of Europe, we have illustrated in Table 6 the strong influence of Central, Northern and Western Europe in dictating the overall trend. This is due to the large number of reporting companies within these regions, with over 550 companies in

Central and Northern Europe, and over 950 companies in Western Europe, compared to Eastern and Southern Europe, which together have just over 300 reporting companies.

The trend in Eastern Europe, with 53 companies, is quite atypical, with a low of 6.38% in 2021 and a high of 8.72% in 2022. Both results are well above the global average.

| Table 6. Average ROA indicator across European regions |                            |        |       |        |
|--------------------------------------------------------|----------------------------|--------|-------|--------|
| Region                                                 | Number of sample companies | 2020   | 2021  | 2022   |
| Central Europe                                         | 569                        | 0,71%  | 2,99% | -1,80% |
| Eastern Europe                                         | 53                         | 7,13%  | 6,38% | 8,72%  |
| Northern Europe                                        | 574                        | -0,97% | 0,07% | -3,01% |
| Southern Europe                                        | 250                        | 1,25%  | 3,02% | 3,77%  |
| Western Europe                                         | 989                        | 1,54%  | 3,77% | 0,42%  |
| Total                                                  | 2435                       | 0,85%  | 2,69% | -0,37% |

Source: Authors own research.

The results based on the regression model constructed above are presented in Table 7:

**Table 7. Simple linear regression results**

| Dependent Variable:                             | ROA                     |      |             |         |       |                     |
|-------------------------------------------------|-------------------------|------|-------------|---------|-------|---------------------|
| Source                                          | Type III Sum of Squares | df   | Mean Square | F       | Sig.  | Partial Eta Squared |
| Corrected Model                                 | 172219.117a             | 2    | 86109,559   | 111,657 | 0,000 | 0,031               |
| Intercept                                       | 137906,944              | 1    | 137906,944  | 178,822 | 0,000 | 0,025               |
| ESG                                             | 711,080                 | 1    | 711,080     | 0,922   | 0,337 | 0,000               |
| Log(TASST)                                      | 89144,430               | 1    | 89144,430   | 115,592 | 0,000 | 0,016               |
| Error                                           | 5409181,060             | 7014 | 771,198     |         |       |                     |
| Total                                           | 5590463,839             | 7017 |             |         |       |                     |
| Corrected Total                                 | 5581400,177             | 7016 |             |         |       |                     |
| a. R Squared = .031 (Adjusted R Squared = .031) |                         |      |             |         |       |                     |

| Dependent Variable: | ROA     |            |         |       |                         |             |                     |
|---------------------|---------|------------|---------|-------|-------------------------|-------------|---------------------|
| Parameter           | B       | Std. Error | t       | Sig.  | 95% Confidence Interval |             | Partial Eta Squared |
|                     |         |            |         |       | Lower Bound             | Upper Bound |                     |
| Intercept           | -15,742 | 1,177      | -13,372 | 0,000 | -18,050                 | -13,434     | 0,025               |
| ESG                 | 0,020   | 0,020      | 0,960   | 0,337 | -0,020                  | 0,059       | 0,000               |
| Log(TASST)          | 2,135   | 0,199      | 10,751  | 0,000 | 1,746                   | 2,524       | 0,016               |

Source: Authors own research.

The  $R^2$  coefficient shows that only 3.1% of the variation in ROA is explained by the change in ESG score, which represents a weak link between the two variables (Table 7).

The F-test results in a value of 111.67, which, in conjunction with the Significance F which registers a value below 0.05 (regression value = 0.000...) demonstrates that the regression model constructed is valid and can be used to analyse the dependence between the two variables.

It is also observed that the value of the ROA indicator is -15.742 when the ESG score is equal to 0. Since we obtained a P-value less than 0.05, we can support the significance of the coefficient.

The ESG coefficient has a value of 0.020 which causes the ROA indicator to increase by 0.020 when the ESG score increases by 1 unit.  $t\_StudESG = 0.960$  and  $P\text{-value} > 0.05 \Rightarrow$  coefficient is insignificant.

Based on the results, the regression model representing the relationship between the ROA profitability indicator and the ESG score is as follows:  $ROA = 0.020 * ESG$ .

Thus, we can conclude from the P-value that ESG score affects ROA at the level of 0.337. The ESG coefficient is positive, which indicates that ESG positively influences ROA, but the relationship between the two indicators is weak and insignificant.

In terms of company size, this coefficient has a positive and significant impact.

The results obtained are comparable with other similar research in the literature. In this regard, the results of the research conducted by Aydogmus et al. (2022) show that the combined ESG score has a positive and significant influence on ROA, with the three elements, Environment, Social and Governance each individually having a positive and significant relationship with ROA. The study by the aforementioned authors referred to the indicators, i.e. Tobin's Q dependent variables to measure firm value and ROA as an indicator of profitability, and the sample included the largest 5000 companies with market capitalization above approximately USD 2.85 bn over the period 2013-2021. Of these, referring to companies that disclosed information on their ESG score, the sample was reduced to 1720 companies.

Moreover, the study by Giannopoulos et al. (2022) reveals that ESG significantly and negatively affects the profitability of companies.

## Conclusion

The literature review revealed the upward trend for the ESG approach but also its many facets. The main issues addressed are: stakeholders, voluntary or mandatory non-financial reporting by companies, quality of non-financial information, ESG policies, ESG performance.

The research carried out highlights the increasing interest of listed companies on European stock exchanges in sustainability performance. This increasing trend is visible both from the perspective of companies reporting such data and in terms of the global average ESG score, during the COVID-19 pandemic and post-pandemic.

From the point of view of the membership of the companies reporting ESG scores in the European Union, the analysis shows that 58.4% of them belong to the European Union; non-EU companies represent 41.6% of the sample studied, mostly located in the United Kingdom, but also in other Northern, Eastern and Central European countries.

In terms of the regional affiliation of reporting companies, Western Europe has the highest proportion of ESG score reporting in the sample, with over 40% over the whole period analysed. It is followed by Northern and Central Europe, which account for approximately 23-24% of the

sample each. Southern Europe occupies just over 10% of the sample and the ranking closes with Eastern Europe at just over 2%.

In terms of ESG performance, the analysis shows that Southern Europe is the best performing pole in terms of average ESG score. Western Europe, Eastern Europe, Central Europe are the next best performers, with Northern Europe coming last.

Differences in the number of companies reporting ESG score, and in the average ESG score, across Europe could be explained by discrepancies generated by the economic development of the member states, ESG culture, geographical particularities, age of EU membership, degree of harmonisation of local legislation with EU legislation, openness of companies to non-financial reporting and its voluntary and transparent nature, interests of investors and other stakeholders in ESG.

The ROA indicator for the period 2020-2022 is below the 3% threshold, with a maximum of 2.69% in 2021 and a minimum of -0.37% in 2022. A strong influence can be observed from Central, Northern and Western Europe in dictating the overall trend. This is due to the large number of reporting companies within these regions, with over 550 companies in Central and Northern Europe, and over 950 companies in Western Europe, compared to Eastern and Southern Europe, which together have just over 300 reporting companies.

Eastern Europe also shows an atypical trend, with a small number of reporting companies averaging well above the European average.

Analysis of the average ESG score of 49.93 and the average ROA profitability indicator of 1.06% shows that most of the companies in the sample analysed are in the top half of the ranking, with scores below 50. However, more than 49% of the companies score well on ESG during the period under review and have above average transparency on ESG disclosure.

Also, the regression model, where ROA is the dependent variable and ESG is the independent variable, shows that there is a positive relationship and insignificant influence between the two variables.

The results obtained are comparable with other similar research in the literature. A positive and significant influence of ESG score on company profitability is demonstrated in the paper by Aydogmus et al. (2022), while Giannopoulos et al. (2022) illustrate a significant but negative influence of ESG score on ROA.

In terms of research limitations, we consider that one of them is the geographical affiliation of the companies. However, although the research only reported on companies listed on European stock exchanges that report sustainability performance information, we consider that the research results are not affected.

As future research directions, we will extend the analysis to internationally listed companies over a longer period of time, encompassing companies in multiple countries and relating to multiple causal factors that could have an effect on sustainability performance and profitability.

*This paper was co-financed by The Bucharest University of Economic Studies during the PhD Program.*

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