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**Article**

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# Environmental, social and governance scores in Europe: What drives financial performance for larger firms?

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## Abstract

This paper aims to investigate the association between firms' financial performance and their sustainability performance, as measured by Tobin's Q, with a focus on the individual ESG pillars. Our study analyzes constituents of the Stoxx Europe 600 index. We employ different econometric approaches and perform a comprehensive analysis of the post-2015 agreement concerning climate change. Results suggest a statistically positive relationship between firms' ESG and financial performance, although of greater magnitude for the social component. Overall, our findings highlight the superior relevance of social performance in yielding shareholder value for the largest European firms.

*Keywords*: ESG, corporate sustainability, financial performance, Tobin's Q
*JEL Classification Codes*: G32, M14, Q56

## 1. Introduction

The discussion over firms' sustainability practices has increased in importance globally since the Paris Agreement of 2015 (Dimitrov, 2016), which focused primarily on climate change. Subsequently, the emergence of sustainability ratings has enabled firms and investors to analyze data from environmental, social, and governance (ESG) aspects entirely from a standpoint similar to the one adopted for financial data (Leins, 2020). The mounting media attention (Wong & Zhang, 2022) and an upsurge in academic research have also contributed to the growing interest in sustainability matters (Gillan et al., 2021; Starks, 2021; Del Giudice & Rigamonti, 2020). A question that soon arose was whether a better sustainability performance could hamper externalities from the firms' businesses and how shareholders would react to such actions.

News over firms' malpractices have hit the headlines over the past decade (Siano et al., 2017), yielding a negative impact on the public's perception of a firm and, indirectly, on its value. At the same time, sustainability ratings started to gain importance, although there were issues attached. In fact, Leins (2020) argues that the appearance and ease of gaining access to ESG data has created a crisis of ethical order, with firms trying to profit from environmental and social

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issues. Some firms were tempted to report information in a manner that did not necessarily reflect what the firm actually accomplished (Gonçalves et al., 2021a). This greenwashing by firms made investors less confident, ultimately harming the firm (Fatemi et al., 2018). Higher ESG disclosure may be perceived negatively by shareholders, especially if firms increase anti-corruption disclosures (Nurrizkiana & Adhariani, 2020). Therefore, disclosure plays a role in moderating firms' strengths and weaknesses displayed in the ESG score (Fatemi et al., 2018; Gonçalves et al., 2020).

The rapid increase in the number of investors and managers integrating socially and environmentally responsible practices into their decision making has allowed ESG data to be used to red flag investments and as a measure to mitigate risk (Van Duuren et al., 2016; Gonçalves et al., 2021a; Biktimirov & Afego, 2021), facilitating better risk–return optimization (Amel-Zadeh & Serafeim, 2018). Business risk began to be accessed through the three lenses of ESG rather than through the traditional corporate governance metrics, which ever since has benefited from the highest level of disclosure (Tamimi & Sebastianelli, 2017), and is expected to be less time-variant than the other ESG components. The increased scrutiny of firms quoted in stock exchanges and belonging to stock indexes has increased the availability of data on corporate governance. Indeed, the effects from better performance on this component has already been intensively studied in the literature (Tamimi & Sebastianelli, 2017; Velte, 2017; Alareeni & Hamdan, 2020; Ammann et al., 2011), albeit Horváthová (2010) in a meta analysis in a period before the increased attention from investors to sustainability issues, reinforced that results were somewhat inconclusive.

The European Union Sustainable Finance Disclosure Regulation (SFDR), among other legislative initiatives, has forced investors to be more aware of the risk exposure to less sustainable firms and, in consequence, to favor high-rated ESG firms (Gonçalves et al., 2021b). Yet, the information available regarding sustainability is far more significant in high-cap firms than in mid-cap firms (Tamimi & Sebastianelli, 2017; Gonçalves et al., 2020). Collectively, regulatory pressures, media attention, greater investor awareness, and the narrower and stricter environmental standards, guidance, and implementation from several entities (e.g., GRI, CDP) has forced firms to make the effort to meet the new demands of sustainability. In the long run, and from an investor's perspective, firms with higher ESG scores and more sustainable practices follow an appreciation tendency (Starks et al., 2017; Halbritter & Dorfleitner, 2015).

Long-term investors tend to be more patient towards sustainability, are likely to gravitate towards firms with a higher ESG score, and are reluctant to liquidate their positions in firms performing above average in terms of ESG ratings (Starks, 2021). Their analysis goes beyond the industry level to the firm level, as it is difficult to accurately quantify risk at the industry level (Van Duuren et al., 2016). One channel that yields risk-adjusted benefits to firms relates to access to lower cost of capital for firms introducing solid sustainability standards into their business (Clark et al., 2015; Wong et al., 2020). Other benefits are related to strategic implications (McWilliams et al., 2006), firms' disclosure practices (Ioannou & Serafeim, 2017), better working capital management (Barros et al., 2022), green fund performance (Gonçalves et al., 2021b), fund attributes (El Ghoul & Karoui, 2021), tax issues (Huseynov and Klamm, 2012), better capturing risk attributes (Naffa & Fain, 2021), earnings management (Gonçalves et al., 2021a), and dividend policy (Matos et al., 2020) among others. Nevertheless, there is a lack of understanding on whether better sustainability performance favors firm value. The extant literature on this topic has yielded mixed results (Velte, 2017; Fatemi et al., 2018; Minutolo et al., 2019; Alareeni & Hamdan, 2020; Fischer & Sawczyn, 2013; Hvidkjær, 2017; Clark et al., 2015; Aouadi & Marsat, 2018; Mak & Kusnadi, 2005; Wong et al., 2020). However, these prior studies only capture the impact from a single-country sample selection (e.g., Velte, 2017; Fischer & Sawczyn, 2013), or fail to account for the components of ESG other than governance (Ammann, Oesch, & Schmid, 2011).

The stochastic model of Faria et al. (2022) has revealed the relevance of firms' green efforts on financial performance, yet it solely focuses on energy transition and is limited to the oil and gas industry, which is at the epicenter of such transition. Our paper endeavors to broaden the scope to understand the relationship between firms' value from a market perspective and the corresponding sustainability performance across various industries and for the largest firms publicly listed in Europe. The sample covers 1,202 firm-year observations of 345 unique listed firms in the Stoxx Europe 600, headquartered in 17 countries. A relevant feature is the time period from 2015 to 2020, allowing a deeper analysis of the post-2015 agreement that shaped policymakers' behavior – the Paris Agreement. We employ alternative econometric settings (OLS, panel data random effects, GMM) and disentangle the effects from the different channels of sustainability for each firm measured by the Refinitiv Eikon's ESG metrics.

Overall, our findings show that sustainability performance drives financial performance, although the effect is not similar across all components of the ESG score. We find evidence that the social component of ESG prevails in shaping firms' financial performance for the largest firms publicly listed in Europe.

This paper is organized as follows. Section 2 describes the research methods and data. Section 3 presents the results. Section 4 draws the paper's conclusions, discusses their implications, and suggests avenues that have potential to move the extant research forward.

## 2. Research methods and data

This paper aims to understand whether better sustainability performance is associated with firms' market value. We restrict our sample to a list of the most sizeable publicly listed European firms to mitigate the potentially asymmetric influence of the multitude of regulatory and other costs contingent upon the firm's size. To address this issue, we collected data from Refinitiv Eikon on the constituents of the Stoxx Europe 600 index that belong to 17 different European countries, an index representative of 90% of most liquid stocks traded in the region. The time period runs from 2015 to 2020, taking full advantage of the spillovers from the 2015 Paris Agreement (Dimitrov, 2016). The initial sample was trimmed of financial institutions because of their idiosyncrasies (Aracil et al., 2021) and of distressed firms reporting negative total equity, as recommended by previous studies (Velte, 2017). The final sample comprised 1,202 firm-year observations from 345 unique firms.

The ESG score computed by Refinitiv Eikon is our proxy for sustainability performance running on a scale of 0 to 1 for its main pillars (environmental, social, and governance). A higher score corresponds to a better ESG performance. In addition, this score is combined with pre-established factor weights. Tobin's Q is used as an approximation for the firm's market value (Velte, 2017). It provides our proxy for financial performance, capturing the relationship between the firm's market value of assets and its respective replacement cost. Following Ammann et al. (2011), firms with Tobin's Q higher than 6 have been removed to address the problem of outliers and potentially skewed observations. The extent of the data and the models followed align with the extant literature (Velte, 2017; Fischer & Sawczyn, 2013; Ammann et al., 2011). To assess the impact of sustainability on financial performance, we apply the following main regression model:

$$Performance_{it} = ESG_{it} + Controls_{it} + \varepsilon_{it} \quad (1)$$

in which control variables follow the extant literature on the topic (Ammann et al., 2011; Fischer & Sawczyn, 2013; Velte, 2017; Fatemi et al., 2018). Specifically, return on assets (*ROA*) is employed to control for the firm's return from an accounting perspective (Faturohman et al., 2021); *Size* is the log of firms' total assets given that firm performance benefits from economies of scale (Tamimi & Sebastianelli, 2017). However, this is to control for effects between large and very large companies, as the sample is already narrowed for the sizeable

firms; *Leverage* can exert opposing effects (Ammann, 2011; Fischer & Sawczyn, 2013; Velte, 2017); *Liquidity* is a measure of cash holdings (Fang et al., 2009; Velte, 2017; Fischer & Sawczyn, 2013); *Profit margin* allows firms to pursue a more sustainable business model (Chouaibi et al., 2021); and *Firm risk* is the beta factor that captures both business and financial risk (Velte, 2017; Fischer & Sawczyn, 2013). The two control variables for profits (*ROA* and *Profit margin*) were included to account for different dimensions of profitability. While *ROA* captures the performance connected to the assets the firm requires to undertake its operations, the *Profit Margin* variable excludes the resources used and focusses on the ability to transform revenues into profits from operating activities. In contrast to other studies on this topic, all statistical models are controlled by the ratio of one over total assets to tackle the ratio problem and possible mis-specifications of the model (Bartlett & Partnoy, 2020). Variables are winsorized at the 1% level when necessary to control for outliers.

The model in equation (1) is an OLS estimation with pooled data that does not constrain the variability from non-cross factors at the unit level. This is line with Fischer & Sawczyn (2013) approach. However, unlike most authors, we extend the base model by incorporating different variations of the sustainability performance metrics, considering the individual components of the environmental, social and governance pillars of the ESG score. The coefficients are estimated using heteroskedasticity-consistent standard errors clustered by firm. To enhance the robustness of our analysis, we further extend the base OLS model in equation (1) by incorporating a random-effects panel data approach, in line with the arguments of Velte (2017), and with a dynamic panel data GMM estimation. This estimation has gained popularity in the finance field (Flannery & Hankins, 2013). The random effects variation, in particular, is relevant because the social component is more open to be sensitive to media coverage, while GMM helps to tackles the potential endogeneity issues associated with setting sustainability scores.

## 3. Results and discussion

### *3.1. Descriptive statistics*

Table 2 presents summary statistics of variables used in the study, as defined in *Table 1*, while Table 3 presents a correlation matrix. In the period under analysis, European firms covered in our sample present an average (median) ESG score of 0.570 (0.580), with the social score exceeding on average all others. This contrasts with other studies focused in the US (Barros et al., 2022). The univariate analysis suggests a negative correlation between sustainability metrics and financial performance, except for the social and governance scores. As expected, this last score is less correlated with the other pillars. Firms in our sample operate with a moderate leverage level (24.2%) and liquidity buffers (7.2%), while operating profitability is 13.8%. As expected, the average firm risk closely mimics the risk of a diversified portfolio composed of the largest European listed firms – 0.952.

### *3.2. The relationship between financial and sustainability performance*

This paper analyzes whether better sustainability performance is associated with firms' market value. Table 4 presents results for the OLS estimation, while Table 5 deals with a panel data approach with random effects. Our approach to tackling potential endogeneity issues is presented in Table 6 with the GMM estimation.

*Table 1.* Variables description.

| Variable | Description |
|---|---|
| *Tobin's Q* | Market value of equity and liabilities divided by total assets |
| *ESG Score* | ESG score ranging from 0 to 100 from Refinitiv Eikon, which combines the Environmental, Social and Governance pillars |
| *Environmental* | Environmental score ranging from 0 to 100 from Refinitiv Eikon |
| *Social* | Social score ranging from 0 to 100 from Refinitiv Eikon |
| *Governance* | Governance score ranging from 0 to 100 from Refinitiv Eikon |
| *ROA* | Return on assets, as net income divided by total assets |
| *Size* | The natural logarithm of total assets |
| *Leverage* | Short- and long-term debt divided by total assets |
| *Liquidity* | Cash and equivalents divided by total assets |
| *Profit Margin* | Earnings before interest and taxes (EBIT) divided by revenues |
| *Firm Risk* | Beta Factor |

*Table 2.* Summary statistics.

| Variables | N | Mean | Std. Dev. | p25 | Median | p75 |
|---|---|---|---|---|---|---|
| *Tobin's Q* | 1,202 | 1.690 | 1.049 | 0.982 | 1.360 | 2.051 |
| *ESG Score* | 1,202 | 0.570 | 0.175 | 0.460 | 0.580 | 0.700 |
| *Environmental* | 1,202 | 0.534 | 0.242 | 0.370 | 0.550 | 0.740 |
| *Social* | 1,202 | 0.617 | 0.213 | 0.480 | 0.640 | 0.780 |
| *Governance* | 1,202 | 0.528 | 0.217 | 0.360 | 0.530 | 0.710 |
| *ROA* | 1,202 | 0.048 | 0.069 | 0.020 | 0.050 | 0.080 |
| *Size* | 1,202 | 15.311 | 1.226 | 14.535 | 15.176 | 15.932 |
| *Leverage* | 1,202 | 0.242 | 0.160 | 0.120 | 0.227 | 0.353 |
| *Liquidity* | 1,202 | 0.072 | 0.080 | 0.014 | 0.048 | 0.105 |
| *Profit Margin* | 1,202 | 0.138 | 0.162 | 0.055 | 0.105 | 0.184 |
| *Firm Risk* | 1,202 | 0.952 | 0.476 | 0.630 | 0.870 | 1.200 |

*Table 3.* Correlation matrix.

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *(1) Tobin's Q* | 1.000 | | | | | | | | | | |
| *(2) ESG Score* | -0.063* | 1.000 | | | | | | | | | |
| *(3) Environmental* | -0.124* | 0.823* | 1.000 | | | | | | | | |
| *(4) Social* | -0.009 | 0.861* | 0.657* | 1.000 | | | | | | | |
| *(5) Governance* | -0.031 | 0.606* | 0.252* | 0.259* | 1.000 | | | | | | |
| *(6) ROA* | 0.189* | -0.039 | -0.028 | -0.038 | -0.023 | 1.000 | | | | | |
| *(7) Size* | -0.368* | 0.349* | 0.386* | 0.277* | 0.119* | -0.133* | 1.000 | | | | |
| *(8) Leverage* | -0.178* | 0.119* | 0.137* | 0.090* | 0.059* | -0.224* | 0.286* | 1.000 | | | |
| *(9) Liquidity* | 0.164* | -0.082* | -0.127* | -0.037 | -0.027 | -0.084* | -0.280* | -0.163* | 1.000 | | |
| *(10) Profit Margin* | -0.029 | -0.036 | 0.004 | -0.046 | -0.052* | 0.505* | 0.090* | 0.075* | -0.152* | 1.000 | |
| *(11) Firm Risk* | -0.137* | 0.114* | 0.086* | 0.026 | 0.186* | -0.197* | 0.028 | 0.071* | 0.086* | -0.160* | 1.000 |

*Note*: * represent a significance level at 10%.

*Table 4.* Financial and sustainability performance: OLS estimation

| | (1) Tobin's Q | (2) Tobin's Q | (3) Tobin's Q | (4) Tobin's Q |
|---|---|---|---|---|
| *ESG Score* | 0.478** | | | |
| | (0.239) | | | |
| *Environmental* | | 0.147 | | |
| | | (0.178) | | |
| *Social* | | | 0.458** | |
| | | | (0.189) | |
| *Governance* | | | | 0.125 |
| | | | | (0.187) |
| *ROA* | 3.334*** | 3.406*** | 3.347*** | 3.406*** |
| | (0.868) | (0.868) | (0.880) | (0.863) |
| *Size* | -0.176*** | -0.162*** | -0.175*** | -0.155*** |
| | (0.059) | (0.061) | (0.061) | (0.059) |
| *Leverage* | 0.001 | 0.013 | -0.000 | 0.014 |
| | (0.276) | (0.276) | (0.278) | (0.277) |
| *Liquidity* | 0.653 | 0.667 | 0.611 | 0.665 |
| | (0.620) | (0.618) | (0.614) | (0.616) |
| *Profit Margin* | -0.642** | -0.679** | -0.632** | -0.680** |
| | (0.288) | (0.290) | (0.287) | (0.287) |
| *Firm Risk* | -0.242*** | -0.229*** | -0.225*** | -0.234*** |
| | (0.078) | (0.077) | (0.078) | (0.078) |
| *Observations* | 1,202 | 1,202 | 1,202 | 1,202 |
| *F-stat* | 14.407 | 13.273 | 14.074 | 13.539 |
| *R-squared* | 0.206 | 0.202 | 0.209 | 0.201 |

*Note:* Controls include fixed effect specification per year. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the firm level. All variables are defined in *Table 1*.

*Table 5.* Financial and sustainability performance: panel data random effects.

| | (1) Tobin's Q | (2) Tobin's Q | (3) Tobin's Q | (4) Tobin's Q |
|---|---|---|---|---|
| *ESG Score* | 0.624*** | | | |
| | (0.229) | | | |
| *Environmental* | | 0.354* | | |
| | | (0.186) | | |
| *Social* | | | 0.444** | |
| | | | (0.186) | |
| *Governance* | | | | 0.187 |
| | | | | (0.161) |
| *ROA* | 0.878 | 0.872 | 0.871 | 0.914 |
| | (0.834) | (0.842) | (0.841) | (0.837) |
| *Size* | -0.351*** | -0.336*** | -0.344*** | -0.317*** |
| | (0.064) | (0.063) | (0.065) | (0.062) |
| *Leverage* | -0.002 | 0.025 | 0.017 | 0.006 |
| | (0.386) | (0.386) | (0.386) | (0.384) |
| *Liquidity* | -0.276 | -0.277 | -0.308 | -0.258 |
| | (0.542) | (0.549) | (0.539) | (0.545) |
| *Profit Margin* | -0.269 | -0.275 | -0.269 | -0.275 |
| | (0.322) | (0.324) | (0.321) | (0.322) |
| *Firm Risk* | -0.130* | -0.118* | -0.124* | -0.114* |
| | (0.068) | (0.068) | (0.068) | (0.067) |
| *Observations* | 1,202 | 1,202 | 1,202 | 1,202 |
| *Adj* $R^2$ | 0.173 | 0.166 | 0.176 | 0.168 |
| *Chi*$^2$ | 73.924 | 66.104 | 69.638 | 65.724 |

*Note:* *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the firm level. All variables are defined in *Table 1*.

*Table 6.* Financial and sustainability performance: dynamic two-step System GMM.

| | (1) Lag Tobin's Q | (2) Lag Tobin's Q | (3) Lag Tobin's Q | (4) Lag Tobin's Q |
|---|---|---|---|---|
| *ESG Score* | 9.0586* | | | |
| | (5.0684) | | | |
| *Environmental* | | 8.8164 | | |
| | | (5.8361) | | |
| *Social* | | | 5.6075* | |
| | | | (3.3502) | |
| *Governance* | | | | 9.1635** |
| | | | | (4.5465) |
| *ROA* | 21.7235 | 8.8244 | 20.6225 | 30.5170* |
| | (15.4317) | (16.2809) | (19.2848) | (18.0886) |
| *Size* | -2.4722 | -4.6647 | -2.6374 | -0.7228 |
| | (4.4812) | (5.6891) | (4.0497) | (5.0272) |
| *Leverage* | -3.8841 | -3.0150 | -4.1841 | -1.8230 |
| | (7.8743) | (8.5037) | (8.5615) | (10.5377) |
| *Liquidity* | -12.6659** | -9.4812 | -4.7105 | -5.6225 |
| | (6.0117) | (7.4341) | (6.7809) | (8.3678) |
| *Profit Margin* | -1.9286 | 0.9613 | -3.1120 | -4.7310 |
| | (4.0175) | (4.5852) | (5.2306) | (4.3749) |
| *Firm Risk* | 1.1607 | 2.4931 | 1.4345 | 0.7850 |
| | (2.6465) | (3.3309) | (2.0794) | (2.1874) |
| *p-value of AR (1) Test* | 0.044 | 0.013 | 0.012 | 0.058 |
| *p-value of AR (2) Test* | 0.492 | 0.666 | 0.780 | 0.780 |
| *Observations* | 1,202 | 1,202 | 1,202 | 1,202 |
| *Number of id* | 345 | 345 | 345 | 345 |

*Note*: *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the firm level. All variables are defined in *Table 1*.

The results of the ESG score are consistent across all econometric approaches, although results vary within each sustainability component. The econometric approaches look at different angles of association underpinning the assumptions of each approach. The social score is consistently positive and significant across all estimations. Employing the OLS approach, this pillar is of greater magnitude in affecting firms' Tobin's Q. Contrary to our expectations, the environmental score does not play a role in firms' financial performance for the largest European firms. This may be explained by the increasing homogeneity of environmental practices following the Paris Agreement in 2015. Furthermore, the governance score is, for the most part, not significant in our estimations. Governance score differences within firms is expected to be the least pertinent of the three sustainability pillars because these larger firms are more likely to be subject to greater scrutiny by authorities and the general public (Liang and Renneboog, 2017; Udayasankar, 2008), as well as by financial institutions (Dalal and Thaker, 2019).

For robustness, we implemented a dynamic two-step system GMM, concerned with endogeneity issues in the sustainability scores. Overall, results corroborate the main findings, showing that the social component is the driving influence of sustainability performance on firms' financial performance.

Most control variables align with the previous literature. ROA is positively associated (Faturohman et al., 2021), while size and leverage present a negative and relevant coefficient (Ammann, 2011; Fischer & Sawczyn, 2013; Velte, 2017). ROA and Profit margin are complementary measures of a firm's profit. We conducted separate analyses using only one of

these controls variables, and the results are unchanged. These estimations are not reported for the sake of parsimony. The liquidity coefficient diverges from the previous literature (Ammann, 2011; Velte, 2017), although our sample is size biased and yields fewer constraints in liquidity management. Profit margin deviates from the conclusions of Velte (2017), while the firm's risk contributes to the mixed results previously reported (Wu, 2006; Hillman, & Keim 2001).

## 4. Conclusions and discussion

Extant understanding of the relationship between sustainability performance and financial performance has yielded mixed results (Velte, 2017; Fatemi et al., 2018; Minutolo et al., 2019; Alareeni & Hamdan, 2020; Fischer & Sawczyn, 2013; Hvidkjær, 2017; Clark et al., 2015; Aouadi & Marsat, 2018; Mak & Kusnadi, 2005; Wong et al., 2020). However, these past studies either failed to cover a multi-country sample selection (e.g., Velte, 2017; Fischer & Sawczyn, 2013) or did not cover components of sustainability other than giving scant attention to governance (Ammann, Oesch & Schmid, 2011). The focus of our contribution has been to fill this precise gap.

We find a positive and statistically significant relationship between ESG scores and firms' market value measured by Tobin's Q. However, the way sustainability performance affects financial performance is not the same across all the sustainability pillars. Taking everything together, our findings demonstrate that sustainability performance drives financial performance. However, not in the way that most literature has been indicating (Velte, 2017; Fatemi et al., 2018; Minutolo et al., 2019; Alareeni & Hamdan, 2020; Fischer & Sawczyn, 2013; Hvidkjær, 2017; Clark et al., 2015; Aouadi & Marsat, 2018; Mak & Kusnadi, 2005; Wong et al., 2020). Specifically, these studies focus on the global ESG score and we find out differences in the separation of the three ESG pillars - environmental, social and governance.

This study is innovative in finding evidence that the social component of ESG prevails in shaping firms' financial performance for the largest firms publicly listed in Europe. The impact of the social score is explained by society's perception of an individual firm or sector, which falls under the legitimacy theory framework (Zelditch, 2020). An organization's values and morals concerning society and the environment can fuel adverse customer reactions to the firm and yield sanctions of not negligible scale, resulting in the loss of turnover and even in the organization's ultimate failure (Zelditch, 2020). Furthermore, the social score is more transversal and less industrial sector sensitive, contrary to the environmental component's perspective (Gonçalves et al., 2020). Both alternative econometric approaches – random effect specification to account for expected exchangeability in our variables and a method of momentums (GMM) for orthogonality conditions – support the previous findings.

Our approach of disentangling the three ESG pillars makes a valuable contribution to the literature by highlighting the superior relevance of the social component of firms' performance in yielding shareholder value. As a result, managers should recognize the importance of the social component in creating sustainable value. Future research may build on our findings by exploring the various idiosyncrasies of the numerous conditions that fuel information to build firms' performance with particular emphasis on the firm's social performance.

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