



# The influence of shareholder ESG performance on corporate sustainability: Exploring the role of ownership structure<sup>☆</sup>

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## ABSTRACT

The increasing emphasis on Environmental, Social, and Governance (ESG) criteria has raised important questions about the role of shareholders in influencing corporate sustainability. Using an international sample of 5,182 companies, we find a positive association between corporate ESG performance and shareholder ESG performance, and this is robust to endogeneity issues. This effect is stronger when the first shareholder is excluded, ownership is more dispersed and firms ensure more rights to their shareholders, suggesting that these characteristics play a key role in strengthening this link.

## 1. Introduction

Environmental, Social, and Governance (ESG) practices help enterprises achieve sustainable development (Huang, 2021; Zhou et al., 2022) and have received increasing attention worldwide among both corporations and investors (Rau and Yu, 2024). In fact, portfolio managers aligned with responsible investments can pursue both financial and social goals (Renneboog et al., 2008), supporting the idea of engaging with companies in their portfolios to improve their ESG practices. According to several review articles (e.g., Khaled et al., 2021; Seow, 2024; Velte, 2023), the determinants of ESG behaviour have been investigated from various perspectives, including ownership structure. Extant literature has examined the effects of ownership structures on non-financial factors, reaching mixed evidences. From one hand, controlling shareholder pledging (Huang et al., 2022) and common institutional ownership (Yin et al., 2024) worsens Chinese companies' ESG performance. Moreover, Dam and Scholtens (2012) find that employee, individual and corporate ownership are associated with relatively poor corporate social policies, and family ownership is negatively associated with ESG performance (Rees and Rodionova, 2015). On the other hand, other articles reveal that stable institutional ownership has a

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positive effect on ESG performance (e.g., Wang and Sun, 2022; Wang et al., 2023). Additionally, active investors with longer horizons (Kim et al., 2019) and foreign ownership (McGuinness et al., 2017) have a positive effect on corporate social responsibility.

To the best of our knowledge, this is the first study that empirically examines whether shareholders who are more concerned about sustainability, as proxied by an external agency ESG assessment, are able to influence corporate sustainability with respect to the firms they own. Accordingly, our findings help to fill the gap in the literature on the impact of ownership structure on ESG factors and provide new insights into the mechanisms through which better ESG shareholders can improve corporate sustainability. Specifically, our results suggest a positive and statistically significant relationship between corporate ESG performance and shareholder ESG performance, as well as robust to several specifications dealing with endogeneity concerns and alternative definitions of the interest variable. Moreover, we observe that such a positive relation, in line with results on institutional ownership (e.g., Dyck et al., 2019; Wang and Sun, 2022; Wang et al., 2023), is stronger when firms are more owned by financial shareholders and less concentrated, giving more influence to minority shareholders with higher ESG performance.

Given the relevance of ownership characteristics for expected financial market outcomes, our contribution to the literature is twofold.

First, by providing empirical evidence of a positive relationship between the external assessment of ESG commitment of both firms and their shareholders, we add to the literature on the determinant of ESG performance. In this respect, previous scholars have mainly investigated corporate governance mechanisms (Harjoto and Jo, 2011; Jo and Harjoto, 2012; Harjoto et al., 2015; Khan, 2022), by focusing on board heterogeneity without looking at the interests effectively represented by the board members. Another strand of the ESG literature has looked at ownership characteristics, focusing on the role of institutional investors (Barnea and Rubin, 2010; Chen et al., 2020). However, these studies do not consider the ESG performance at the shareholder level, which is how we intend to contribute to this literature.

Second, we contribute to the literature that examines how ownership structure affects ESG performance. Specifically, we find that this relationship is primarily driven by less concentrated ownership structures, regardless of the largest shareholder. Our results show that it is the ownership dispersion, rather than the influence of a single large shareholder, that enhances the alignment of ESG performance between companies and their shareholders, which is consistent with Huang et al. (2022), who find that controlling shareholder pledging negatively impacts firm ESG performance, and with Li and Zhang (2010), who observe how ownership dispersion promotes CSR engagement for Chinese non-state-owned firms.

The remainder of the paper proceeds as follows. Section 2 explains data and methodology, while Section 3 presents empirical findings. Finally, Section 4 concludes.

## 2. Data and methodology

We use an international sample of publicly listed firms having Refinitiv ESG data for at least five consecutive fiscal years from 2008 to 2022.<sup>1</sup> For these firms, we retrieve information on the top 50 shareholders at the end of each fiscal year, including name, type of investor and percentage of shares held. Then, we match each shareholder with the respective ESG score, where available.<sup>2</sup> To ensure data comparability, we exclude financial firms<sup>3</sup> as they are subjected to different disclosure rules (Tingbani et al., 2020). Finally, after removing firms with missing financial data, our final sample consists of 5182 unique firms from 71 countries, for more than 47,000 firm-years. Table 1 reports sample distribution by country (panel A), industry (panel B) and year (panel C), respectively.

Instead, Table 2 presents summary statistics for companies and their shareholders. As expected, corporate ESG performances (*ESG score*) are much bigger than the weighted average scores of the top shareholders (*Avg ESG own*), as, on average, only the 37 % of the top 50 shareholders are ESG-rated from Refinitiv (*Available ESG own*). Further, we observe that the most frequent shareholder is an investor of private and financial nature.

Before looking at the empirical analysis whether shareholder ESG performance can affect corporate sustainability, we want to analyze ownership structures across corporate ESG quartiles by plotting the average percentage of shares held by four types of investors (e.g., non-financial corporations, public institutions, individuals, and financial firms) over the sample period, as shown in Fig. 1. Despite previous authors have studied the sustainability profile of individual investors (Bauer et al., 2021) and the role of government in shaping CSR commitment (Campbell, 2007), sustainability assessments, which are increasingly orienting the allocation choices of investors, are typically assigned to publicly listed companies. For those type of investors, Fig. 1a and d confirmed that their engagement in high rather than low ESG companies needs further investigation.

Finally, to investigate the relationship between corporate ESG performance and shareholder ESG performance, we employ the following specification:

$$ESG_{i,t} = \alpha + \beta_1 ESG\_OWNERSHIP_{i,t-1} + \sum_{u=2}^k \beta_u controls_{i,t-1} + \tau + \gamma + \varepsilon_{i,t} \quad (1)$$

where  $ESG_{i,t}$  is the Refinitiv ESG score of firm  $i$  at the fiscal year  $t$ .  $ESG\_OWNERSHIP$  indicates shareholders' ESG performance of firm  $i$

<sup>1</sup> We adopt this time frame since, prior 2008, too few firms were ESG-rated by Refinitiv.

<sup>2</sup> When dealing with ESG data availability, we also consider the type of investor. Indeed, few ESG-rated shareholders among the top 50 can be due either to poor socially responsible engagement or to the mere fact that most shareholders cannot be rated by nature (as in the case of individuals).

<sup>3</sup> TRBC economic sector code equals to 55.

**Table 1**  
Sample distribution by country, industry and year.

Panel A. Sample distribution by country							
ISO	Country	Freq.	Perc.	ISO	Country	Freq.	Perc.
US	United States	1747	33.71	SG	Singapore	46	0.89
JP	Japan	403	7.78	ES	Spain	45	0.87
AU	Australia	354	6.83	NL	Netherlands	39	0.75
GB	Great Britain	333	6.43	IT	Italy	38	0.73
CN	China	308	5.94	MX	Mexico	37	0.71
CA	Canada	298	5.75	ID	Indonesia	35	0.68
TW	Taiwan	124	2.39	IE	Ireland	33	0.64
HK	Hong Kong	118	2.28	TH	Thailand	33	0.64
ZA	South Africa	105	2.03	RU	Russia	31	0.60
KR	South Korea	103	1.99	CL	Chile	29	0.56
FR	France	86	1.66	AR	Argentina	28	0.54
IN	India	86	1.66	FI	Finland	25	0.48
DE	Germany	81	1.56	BE	Belgium	24	0.46
CH	Switzerland	68	1.31	DK	Denmark	23	0.44
SE	Sweden	65	1.25	PH	Philippines	23	0.44
BR	Brazil	63	1.22	PL	Poland	22	0.42
NZ	New Zealand	51	0.98	TR	Turkey	22	0.42
MY	Malaysia	48	0.93		Other	208	4.01
					Total	5182	100
Panel B. Sample distribution by industry							
TRBC Industry (2-digits code)					Freq.	Perc.	
Energy (50)					409	7.89	
Basic Materials (51)					623	12.03	
Industrials (52)					808	15.59	
Consumer Cyclicals (53)					864	16.67	
Consumer Non-Cyclicals (54)					439	8.47	
Healthcare (56)					580	11.19	
Technology (57)					769	14.83	
Utilities (59)					280	5.40	
Real Estate (60)					410	7.91	
Total					5182	100.00	
Panel C. Sample distribution by year							
Year					Freq.	Perc.	
2008					1502	3.19	
2009					1771	3.76	
2010					2100	4.46	
2011					2365	5.02	
2012					2822	5.99	
2013					2982	6.33	
2014					3051	6.48	
2015					3110	6.60	
2016					3220	6.83	
2017					3679	7.81	
2018					4123	8.75	
2019					4598	9.76	
2020					4544	9.65	
2021					4339	9.21	
2022					2906	6.17	
Total					47,112	100.00	

This table describes sample composition. Panel A reports the distribution of sample firms by country of incorporation, with values (sorted in descending order) reported in absolute and relative terms. Panel B reports the distribution of firms by industry, using the TRBC (The Refinitiv Business Classification) economic sector 2-digits code. Instead, in Panel C, we report the sample distribution by year.

at the fiscal year  $t-1$ . In this respect, our main variable of interest is the weighted-average ESG score of the top 50 shareholders (*Avg ESG own*), but we alternatively use the ESG score of the only first shareholder (*Top own ESG score*) and the percentage of ESG-rated shareholders among the top 50 (*Available ESG own*). In particular, the use of this latter is motivated by the fact that the availability of an ESG rating, regardless of its value, reflects corporate transparency in disclosing nonfinancial information allowing external agencies to issue a judgment (Bhimavarapu et al., 2022; Fiorillo et al., 2023). We chose to use Refinitiv to proxy the ESG performance of listed companies for two main reasons. First, the methodology is publicly available and transparent in its collection and verification of ESG information, allowing academics to understand how entity evaluates firms. Second, Refinitiv's coverage includes time series of global companies and serves as a database for many research articles (e.g. Albuquerque et al., 2020; Drempetic et al., 2020; Flammer, 2021). Further, according to the organizational legitimacy and resources-based views (McWilliams and Siegel, 2011; Barko et al.,

**Table 2**  
Summary statistics.

	N	Mean	SD	1st Perc.	25th Perc.	Median	75th Perc.	99th Perc.
<i>Company level</i>								
ESG score	47,112	45.884	18.587	6.426	30.91	45.894	60.762	85.757
Size	46,954	8.389	1.641	3.917	7.430	8.434	9.440	12.146
Stock return	46,689	0.103	0.432	−0.744	−0.156	0.057	0.290	1.954
Asset tangibility	46,948	0.515	0.244	0.046	0.322	0.494	0.710	0.980
Leverage	46,952	0.845	1.552	−4.940	0.188	0.545	1.096	9.249
<i>Shareholders level</i>								
Available ESG own (%)	47,112	37.103	14.998	0.000	30.000	39.583	46.939	65.957
Avg ESG own	47,112	11.406	10.377	0.000	3.355	9.666	16.739	45.685
Avg ESG own – excl. top	47,112	9.424	7.578	0.000	2.911	8.221	14.517	29.704
Top own ESG score	13,606	55.927	18.070	7.55	44.292	57.002	69.870	87.836
Corporation (%)	47,112	13.600	21.700	0.000	0.000	0.900	19.000	81.500
Government (%)	47,112	3.400	10.200	0.000	0.300	0.900	1.600	58.400
Individual (%)	47,112	5.600	12.800	0.000	0.000	0.300	3.800	63.200
Financial (%)	47,112	40.800	26.500	0.300	18.000	37.000	62.700	97.600

This table presents the summary statistics for variables used in the regression analyses. With regard to the company level variables, *ESG score* is the weighted average relative score of a company based on publicly available and auditable data, *Size* is the natural logarithm of total book assets, *Stock return* is the stock performance over past fiscal year, *Asset tangibility* is the ratio of tangible assets to total assets., while *Leverage* is the ratio of total debt to total equity. Then, we employ a battery of control variables of interest at the shareholders' level. *Available ESG own* is the ratio of the number of shareholders having an ESG score assigned to the total number of shareholders. *Avg ESG own* is the average ESG score of shareholders weighted by their percentage equity stake (*Avg ESG own – excl. top* is computed in the same way, except that we exclude the top shareholder from the computation). *Top own ESG score* represents the ESG score of the shareholder with the highest equity stake held. *Corporation*, *Government*, *Individual* and *Financial* is the percentage equity stake held by nonfinancial companies, public institutions, individuals and financial companies, respectively. *Size*, *Stock return*, *Asset tangibility* and *Leverage* are winsorised at the 1 % level in both tails to reduce the impact of outliers. The sample comprises 47,112 firm-year observations representing 5182 unique firms during the period 2008–2022.

2022), we control for size, stock price performance, leverage and asset tangibility, as well as for year ( $\tau$ ) and firm ( $\gamma$ ) fixed effects. All firm-level control variables are winsorised at the first and ninety-ninth percentiles to mitigate the effect of outliers.

### 3. Results

#### 3.1. Corporate ESG performance and shareholder ESG performance

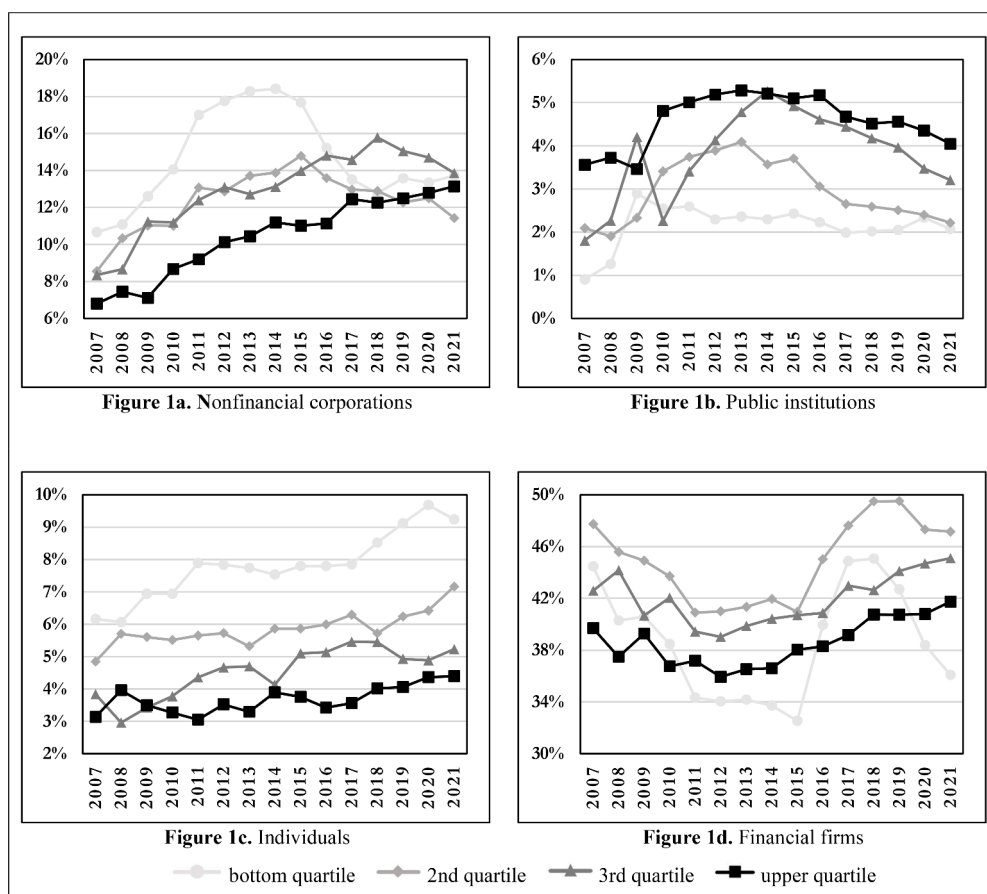
In Table 3, we report baseline results using Eq. (1) to examine the relationship between company ESG performance and shareholder ESG performance as measured by Refinitiv, with all covariates lagged by one year. We observe positive and statistically significant coefficients at the 1 % level for *Avg ESG own* (columns 1 and 2), as well as for *Available ESG own* and *Top own ESG score* (the latter significant at the 5 % level)<sup>4</sup>. These results suggest that higher average shareholder ESG scores are associated with better company ESG performance. Specifically, a one standard deviation increase in *Avg ESG own* is associated with a 0.77 pt increase in the firm ESG score, equivalent to 4.13 % of its standard deviation, while the economic magnitudes for *Available ESG own* and *Top own ESG score* are 3 % and 2.33 %, respectively. These results, which include time and firm fixed effects and are robust to alternative specifications with industry fixed effects and country per year fixed effects,<sup>5</sup> support the shareholder engagement view (Barko et al., 2022) that active investors positively influence the ESG performance of target firms.

#### 3.2. Addressing endogeneity issues

The estimates presented above do not account for potential endogeneity in the relationship between the ESG performance of owners and firms. While high-ESG investors may appear to push firms towards more responsible behavior, it is also possible that these investors simply target high-ESG firms, suggesting reverse causality. We partially address this by lagging the independent variables, but to further address endogeneity, we employ two-stage least squares (2SLS) estimation as also used by Bilyay-Erdogan et al. (2023), with results reported in Table 4. Our instrument (*ExeComp ESG own*) is a lagged dummy indicating whether the investor has an ESG-based executive compensation policy, weighted by ownership percentage. This instrument is highly correlated with *Avg ESG own* (correlation coefficient 0.71, significant at 1 %) but weakly correlated (0.14) with the outcome variable, satisfying 2SLS conditions. Further, statistics for weak instrument and under identification tests reported in the bottom lines of Table 4 confirms that our estimates are exempt from biases in this respect. In the first stage (column 1), *Avg ESG own* is regressed on the instrument (significant as expected), yielding a fitted value that is used in the second stage (column 2), where the coefficient remains positive and significant at 1 %,

<sup>4</sup> In the case of *Available ESG own*, it remains positive and statistically significant even by removing the number of individual investors (which are not rated “by nature”) from the percentage computation.

<sup>5</sup> Results are available from the authors upon request.



**Fig. 1.** Ownership composition by quartiles of corporate ESG performance.

These figures report the trend in the average percentage stake owned by each shareholder type. Firms owned are divided by quartiles of ESG performance score.

suggesting that shareholder ESG performance affects firm ESG performance even after addressing endogeneity concerns.

### 3.3. The role of ownership structure

**Table 5** provides additional evidence on the relationship between ownership and ESG performance, focusing on companies where financial firms hold more than the sample median of total shares. The analysis reveals two main insights. First, the coefficient for *Avg ESG own* is statistically significant at the 1 % level and larger in magnitude compared to baseline results in **Table 3**, with an increasing economic effect (column 2). Second, the coefficient for *Top own ESG score* is not statistically significant (columns 5 and 6). These findings suggest that financial institutions exert greater pressure on investee companies to shape their sustainability profiles, which is consistent with [Dyck et al. \(2019\)](#) finding that institutional investors in aggregate are a driving force behind green and social performances.

**Table 6** examines the relationship between corporate ESG performance and shareholder ESG performance, controlling for different numbers of shareholders and ownership. Columns 1 and 2 focus on the first 10 shareholders and show that *Avg ESG own* remains significant at the 1 % level, with an even stronger effect when the top shareholder is excluded (*Avg ESG own - excl. top*). Columns 3 and 4 split the sample by median shareholder rights scores and show that *Avg ESG own* is only significant in the highest shareholder score group, indicating that companies with more empowered shareholders have a stronger positive relationship between shareholder and firm ESG performance. These results suggest that both ownership concentration and the extent of shareholder rights play a crucial role in influencing ESG commitment assessed.

Previous evidence may be acceptable if the top shareholder does not control the company (i.e. its shares are less than 50 %). Thus, a reasonable question is whether ownership concentration can somehow shape the link between the ESG performance of companies and their shareholders. **Table 7** explores how ownership concentration affects the relationship between corporate ESG performance and shareholder ESG performance. First, we exclude the top shareholder when calculating the weighted average ESG score of shareholders (*Avg ESG own - excl. top*) and find positive and significant coefficients with a larger economic impact than before. Second, we split the sample based on the median ownership of the largest investor. The relationship between shareholder and company ESG performance is

**Table 3**  
Relation between corporate ESG performance and shareholders ESG performance.

	(1) ESG score <sub>t</sub>	(2) ESG score <sub>t</sub>	(3) ESG score <sub>t</sub>	(4) ESG score <sub>t</sub>	(5) ESG score <sub>t</sub>	(6) ESG score <sub>t</sub>
Avg ESG own <sub>t-1</sub>	0.096*** (0.018)	0.074*** (0.017)				
Available ESG own <sub>t-1</sub>			0.080*** (0.012)	0.037*** (0.011)		
Top own ESG score <sub>t-1</sub>					0.024** (0.010)	0.024** (0.010)
Size <sub>t-1</sub>		3.933*** (0.290)		3.874*** (0.292)		2.617*** (0.571)
Stock return <sub>t-1</sub>		0.082 (0.107)		0.087 (0.107)		−0.116 (0.215)
Asset tangibility <sub>t-1</sub>		0.830 (1.058)		0.833 (1.060)		2.505 (1.824)
Leverage <sub>t-1</sub>		−0.102* (0.055)		−0.102* (0.055)		−0.155 (0.101)
Constant	34.120*** (0.360)	1.508 (2.351)	31.931*** (0.466)	1.555 (2.356)	35.861*** (0.766)	13.627*** (4.759)
Observations	47,639	47,112	47,639	47,112	14,397	14,254
R-squared	0.378	0.314	0.300	0.314	0.270	0.274
Number of firms	5199	5169	5199	5169	2810	2784
Cluster SE	Firm	Firm	Firm	Firm	Firm	Firm
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

This table presents the results of firm fixed-effects regressions estimating the relation between corporate ESG performance and the ESG performances of their owners. This latter is captured by the following three main independent variables: the average of shareholders' ESG ratings weighted by their percentage stake held in the company (*Avg ESG own<sub>t-1</sub>*, columns 1 and 2), the percentage of ESG rated shareholders among the top 50 (*Available ESG own<sub>t-1</sub>*, columns 3 and 4) and the ESG rating of the sole top investor (*Top own ESG score<sub>t-1</sub>*, columns 5 and 6). All the independent variables are one-year lagged. Robust standard errors are clustered at the firm-level to account for serial correlation and are reported in parentheses. \*, \*\*, \*\*\* indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

not significant when ownership concentration is high but remains significant and stronger for companies with more dispersed ownership. These results are in line with prior evidence establishing a positive link between ownership dispersion and ESG performance (Li and Zhang, 2010; Huang et al., 2022). Overall, we provide evidence that shareholder ESG performance has a stronger impact on company ESG outcomes when ownership is less concentrated.

#### 4. Conclusions

Our study provides novel insights on the link between companies' and their shareholders' ESG performances. We find a positive association between corporate ESG performance and shareholder ESG performance, highlighting the need to align firms' sustainability goals with investors' preferences. This alignment not only creates a virtuous cycle of sustainability, but can improve their access to capital and facilitate strategic partnerships. In line with results on institutional ownership (e.g., Dyck et al., 2019; Wang and Sun, 2022; Wang et al., 2023), our research highlights the boosting role of financial investors in catalyzing ESG improvements within companies, particularly in contexts characterized by dispersed ownership structures, especially when the largest shareholder is excluded. This is consistent with Huang et al. (2022), who also found a negative impact of controlling shareholder pledging on firm ESG performance. By actively engaging with investee companies, these investors have significant influence in shaping sustainable business practices, thereby fostering long-term value creation and building stakeholder trust. Thus, our research underscores the multifaceted impact of embracing ESG principles, encompassing financial performance, stakeholder relations and broader societal impacts.

This study is not exempt from limitations. We do not take into account specific business models and firm characteristics, which could significantly influence our findings. In addition, our study relies on third-party ESG measures, which may vary in accuracy and consistency across providers (Berg et al., 2022). These limitations suggest several avenues for future research, including exploring regulatory shocks on ownership structure, to better identify the causal relationships in the link between shareholder engagement and ESG performance. Another point is related to the "shareholder engagement" argument, which we capture through the shareholder score, measuring firms' openness to minor investors. However, such openness does not necessarily translate into active engagement with the individual shareholder. In this respect, future research can further explore the link between firm and shareholder ESG performance by looking at shareholder activism and, more in general, by exploring other possible channels.

#### CRedit authorship contribution statement

**Paolo Fiorillo:** Writing – original draft, Software, Methodology, Formal analysis, Data curation. **Gianluca Santilli:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Conceptualization.

**Table 4**

Instrumental Variable (IV) approach to deal with endogeneity concerns.

	(1) First stage: Avg ESG own <sub>t-1</sub>	(2) Second stage: ESG score <sub>t</sub>
ExeComp ESG own <sub>t-1</sub>	0.420*** (0.009)	
Avg ESG own <sub>t-1</sub>		0.092*** (0.017)
Size <sub>t-1</sub>	0.690*** (0.063)	4.638*** (0.144)
Stock return <sub>t-1</sub>	-0.127** (0.051)	-0.096 (0.109)
Asset tangibility <sub>t-1</sub>	-0.576** (0.295)	0.604 (0.611)
Leverage <sub>t-1</sub>	-0.004 (0.019)	-0.077** (0.037)
Observations	47,108	47,108
Number of firms	5165	5165
Pseudo R-squared	0.386	0.400
Cluster SE	Firm	Firm
Year Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes
Weak instrument test:		
Kleibergen-Paap Wald rk F statistic	2165.91	
Weak instrument test:		
Cragg-Donald Wald F statistic	16,977.21	
Under identification test:		
Kleibergen-Paap rk LM statistic	1314.17	
Stock-Yogo Weak ID Test Critical Values: 10% Maximal IV	16.38	

This table reports the results of the 2SLS regression. Our instrumental variable (ExeComp ESG own) is the sum of the percentage stake of non-individual investors (among the top 50) having an ESG performance-oriented compensation policy. In the 2nd stage, the independent variables are one-year lagged, while, in the 1st stage, all the variables (including the dependent variable) are one-year lagged. \*, \*\*, \*\*\* indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

**Table 5**

Relation between corporate ESG performance and shareholders ESG performance: robustness check.

	(1) ESG score <sub>t</sub>	(2) ESG score <sub>t</sub>	(3) ESG score <sub>t</sub>	(4) ESG score <sub>t</sub>	(5) ESG score <sub>t</sub>	(6) ESG score <sub>t</sub>
Avg ESG own <sub>t-1</sub>	0.098*** (0.023)	0.097*** (0.023)				
Available ESG own <sub>t-1</sub>			0.054*** (0.016)	0.033** (0.017)		
Top own ESG score <sub>t-1</sub>					0.015 (0.014)	0.017 (0.014)
Size <sub>t-1</sub>		3.077*** (0.415)		3.046*** (0.417)		1.656** (0.812)
Stock return <sub>t-1</sub>		0.064 (0.168)		0.068 (0.168)		-0.155 (0.313)
Asset tangibility <sub>t-1</sub>		-0.084 (1.637)		-0.081 (1.641)		-0.360 (2.590)
Leverage <sub>t-1</sub>		-0.041 (0.072)		-0.044 (0.072)		0.001 (0.143)
Constant	36.303*** (0.507)	10.574*** (3.535)	35.761*** (0.653)	10.882*** (3.555)	38.392*** (1.219)	25.023*** (6.835)
Observations	24,208	23,936	24,208	23,936	7896	7813
R-squared	0.277	0.284	0.277	0.283	0.233	0.234
Number of firms	3487	3461	3487	3461	1930	1909
Cluster SE	Firm	Firm	Firm	Firm	Firm	Firm
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

This table reports the results of the same estimations of Table 3 but using a subsample made up of firms for which financial companies account for more than sample median of the overall shareholders. All the independent variables are one-year lagged. \*, \*\*, \*\*\* indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.



**Table 6**

Relation between corporate ESG performance and shareholders ESG performance: accounting for alternative number of shareholders and ownership rights.

	(1) ESG score <sub>t</sub>	(2) ESG score <sub>t</sub>	(3) ESG score <sub>t</sub> Low shareholder score	(4) ESG score <sub>t</sub> High shareholder score
Avg ESG own <sub>t-1</sub>	0.074*** (0.018)		0.053 (0.044)	0.104*** (0.026)
Avg ESG own – excl. top <sub>t-1</sub>		0.100*** (0.025)		
Size <sub>t-1</sub>	3.961*** (0.291)	3.956*** (0.291)	4.727*** (0.412)	2.862*** (0.368)
Stock return <sub>t-1</sub>	0.088 (0.108)	0.090 (0.107)	0.306** (0.152)	–0.200 (0.170)
Asset tangibility <sub>t-1</sub>	0.798 (1.059)	0.819 (1.060)	0.374 (1.423)	1.935 (1.488)
Leverage <sub>t-1</sub>	–0.104* (0.055)	–0.107** (0.055)	–0.154* (0.090)	–0.060 (0.068)
Constant	1.440 (2.357)	1.562 (2.356)	–5.177 (3.321)	10.888*** (3.090)
Observations	47,112	47,112	23,040	24,072
R-squared	0.314	0.314	0.306	0.309
Number of firms	5169	5169	4393	3862
Cluster SE	Firm	Firm	Firm	Firm
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes

This table reports the results of the same estimations of Table 3 but only considering first 10 shareholders (columns 1 and 2), as well as using two subsamples based on the median value of the shareholder score: lower than median proxying for providing less (column 3) and more (column 4) rights to shareholders. \*, \*\*, \*\*\* indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

**Table 7**

Relation between corporate ESG performance and shareholders ESG performance: accounting for ownership concentration.

	(1) ESG score <sub>t</sub>	(2) ESG score <sub>t</sub>	(3) ESG score <sub>t</sub> High concentration	(4) ESG score <sub>t</sub> Low concentration
Avg ESG own – excl. top <sub>t-1</sub>	0.136*** (0.024)	0.090*** (0.023)	0.020 (0.031)	0.151*** (0.032)
Size <sub>t-1</sub>		3.927*** (0.290)	3.864*** (0.368)	4.240*** (0.456)
Stock return <sub>t-1</sub>		0.083 (0.107)	0.103 (0.145)	0.125 (0.163)
Asset tangibility <sub>t-1</sub>		0.855 (1.059)	1.104 (1.405)	0.284 (1.640)
Leverage <sub>t-1</sub>		–0.106* (0.055)	–0.102 (0.080)	–0.109 (0.068)
Constant	33.401*** (0.358)	1.643 (2.349)	0.268 (2.986)	0.813 (3.749)
Observations	47,639	47,112	23,985	23,127
R-squared	0.299	0.314	0.314	0.294
Number of firms	5199	5169	3776	3231
Cluster SE	Firm	Firm	Firm	Firm
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes

This table reports the results of the same estimations of Table 3, where our control variable of interest (i.e., the weighted-average of shareholders' ESG scores) does not take into account the first investor (Avg ESG own – excl. top<sub>t-1</sub>). We estimate our regressions on the full sample (columns 1 and 2) and on two subsamples based on the median value of the percent stake held by the top investor (13.03 %): higher than median proxying for high (column 3) and low (column 4) ownership concentration. \*, \*\*, \*\*\* indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

## Data availability

Data will be made available on request.

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