Corporate Ownership and ESG Performance[1]

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Abstract

Using a sample of 3,083 firms from 62 countries over 18 years, we analyze how the structure and identity of firms' material owners influence their Environmental, Social, and Governance (ESG) performance. We find that firms with founding families or other individual investors as owners underperform, unless family members serve as CEOs, when they outperform all others. Non-family management and government entities also perform significantly better. These results are robust to multiple data and methodological stress tests. Our findings show that ownership matters for ESG performance, and give us an indication of the preferences of different types of owners regarding ESG.

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Since the 1932 publication of Berle and Means' landmark, *The Modern Corporation and Private Property*, corporate governance scholars have focused on the impact of ownership and control on corporate outcomes. This debate was revived in the 1980s, with the "Friedman doctrine" of shareholder primacy as a strong reaction to perceptions of runaway managerialism. The impulse to constrain managers was explicitly addressed in the 1990s' efforts to align managerial interests with those of dispersed owners through executive compensation structures. Over the past decades, however, it has become increasingly clear that dispersed ownership is more the exception than the norm around the world, even in the United States (e.g., La Porta et al., 1999; Faccio & Lang, 2002; Yeh, 2005; Franks and Mayer, 2018; Holderness, 2009; Villalonga & Amit, 2006, 2009).

Under more concentrated ownership structures, major shareholders can exert greater influence over the operations and strategies of the firms (Shleifer & Vishny 1997; La Porta et al. 1999; Faccio & Lang 2002; Villalonga & Amit 2006). There is growing evidence that the interests of owners are manifested in how organizations are run; and that these interests—and the subsequent behavior of corporations—differ for different types of owners (Kasperk and Wen, 2022). For instance, family-controlled corporations have been found to differ systematically from their widely held counterparts across a broad range of strategic decisions including diversification (Gómez-Mejía et al., 2010), internationalization (Villalonga et al., 2019), acquisitions (Miller et al., 2010; Chen et al., 2021); divestitures (Feldman et al., 2016, 2019), capital structure (Romano et al., 2001); and management succession (Bertrand & Schoar, 2006). Institutional investors have been found to have different impact on firms' R&D investment depending on their type and time horizon (Bushee 1998; Hoskisson et al., 2017).

We look at a newer strategic choice of firms: their adoption of environmental, social, and governance (ESG) practices. In recent years we have seen in some sectors and nations a professed move away from the notion of shareholder primacy towards a more inclusive,

stakeholder-centric approach to doing business in a socially responsible and/or environmentally sustainable way. For instance, at the Business Roundtable of 2019, nearly 200 CEOs joined in offering their support for advancing the broader interests of stakeholders versus those of just shareholders.

In this new corporate governance landscape, however, owners and shareholders nonetheless continue to play a central role. If the costs and benefits of corporate sustainability activities are unevenly borne by shareholders and other stakeholders, major shareholders have the incentives and ability to encourage or constrain certain ESG initiatives to ensure that their interests are satisfied (Cox et al., 2004; Masulis & Reza, 2015). Executives' decisions are likely to reflect the issues favored by different types of major owners (Neubaum & Zahra, 2006). Therefore, owners are likely to be a key driver—if not the primary one—behind their firms' policies and practices regarding corporate sustainability (Villalonga, 2018)—or to choose to be major owners of firms whose practices match their preferences.

In this paper, we use a sample of 3,083 public corporations from different countries over 18 years to investigate empirically whether and how different types of owners explain the environmental and social choices of the businesses they own. To ensure that shareholders have some degree or control or at least significant influence over their firm's activities, we focus on firms' *material owners*, which we define as the ultimate owners behind the firm's ten largest direct shareholders. The corporations in our sample have a variety of such material owners: founders and their families, other individual investors, institutional investors, other corporations, governments, employees, and managers. Given the wide range of industries our sample covers, we focus on a set of Environmental, Social, and Governance (ESG) activities that can be measured consistently across firms and industries. These activities are generally not mandated by governments and therefore demonstrate a degree of strategic choice by firms and their owners.

Which policies and practices owners favor may depend on the type of owner as well as on their ability to affect firms' decisions. For instance, state or employee owners might exhibit preferences for more public-spirited activities; firms with family control might show preferences for long-horizon ESG activities; firms with managerial stakes might show greater inclination to pursue popular ESG initiatives, etc. A number of studies have examined the sustainability performance of firms with different owner types, particularly families and institutions (see Faller and zu Knyphausen-Aufseß (2018) and Villalonga (2018) for reviews). Despite the associations that theoretical arguments might suggest, this literature has led to inconclusive results. It is important to note, however, that the failure to find a pattern between owner type and ESG activities does not necessarily reflect the absence of differences in the preferences of different owners; it can also result from an inability of owners to manifest their preferences on the activities of the firm.

In particular, one possible reason for the disparity in results observed across studies of the impact of ownership on ESG is the failure to take into account the diversity of owner types that often coexist in a firm's ownership structure, and the resulting interaction across those owners. For instance, in the US, while a large number of public corporations still have their founding families as significant shareholders, institutional investors as a group usually account for a larger fraction of those firms' equity than the families themselves (Villalonga and Amit, 2009). Heterogeneous interests and motivations among owners are likely to increase the costs of coordination and alignment and may be counterproductive for the firm's ESG commitments. Yet most prior studies of ownership and ESG have focused on a single type of owner (e.g., families *or* institutions, but not both), without regard to the rest of the firm's ownership structure.

We begin our empirical investigation by using two measures of the distribution of material owner types in a firm's ownership structure, to account for the impact of the potentially

diverging and/or conflicting interests among major shareholders: (1) *Ownership Concentration*, measured as the Hirschman–Herfindahl index (HHI) of the equity stakes held by the ten largest direct shareholders; and (2) *Owner Diversity*, measured as the number of different material owner types behind those ten largest shareholders. In effect these two measures examine whether ownership dispersion and diversity—both of which presumably limit the ability of any given owner to control firm policies—are correlated with ESG practices. We find that firms whose ownership is concentrated in a small and/or heterogeneous group of owners tend to score poorly on ESG metrics.

We then examine whether and how the identity of the firm's material owners is related to ESG performance. To differentiate and compare the influence of different owner types, we employ two sets of variables: (1) a series of indicators denoting the presence of one or more or the following owner types among the firm's material owners: founding families, individual investors, government-affiliated entities, public corporations, employees, and management; (2) the equity stakes collectively held by each of these categories of owners.

Even after controlling for industry, country, firm size, and a host of other controls, we find that ownership matters. We find significant relationships between ownership structure and identity and ESG compliance. Firms with material management or government stakes tend to outperform with respect to ESG; those with founding family or other individual stakes underperform with respect to ESG. These results are robust to alternative metrics of ESG from other data providers, as well as to various alternative specifications.

We also look at whether family owners are also CEOs or directors, and whether they are founders or descendants of the founder(s). We find that the negative association between family ownership and ESG is entirely driven by material owners and directors without managerial roles. In contrast, family CEOs are positively and significantly associated with ESG performance. Family owners or CEOs' generation plays a less pivotal but still important role:

the coefficients for founders and descendants as material owners are very similar in size and statistical significance; founder-CEOs and descendant-CEOs are both positive and significant predictors of ESG and its components, but the size of the descendant-CEO coefficients are about twice as large—in fact, large enough to offset the negative family ownership effect in later-generation firms.

While we use a variety of instruments to better identify this set of relationships, we acknowledge that establishing causality is difficult. Nevertheless, the patterns among firms suggest that there is a relationship between the concentration, identities, and managerial roles played by material owners of a firm and the firm's stance with respect to ESG activities. The observed relationships bear out conventional expectations that state owners might put greater weight on environmental and social—but not governance—considerations; that individual or financial investors might put less weight on these activities; and the managerial preference hypothesis that manager-owners might favor these activities. Our results are inconsistent, however, with a simplistic notion that firms with family ownership or employee owners—who profess to think in terms of long-term outcomes and their connection with workers and communities—are more socially-minded than firms with other material owners.

The remainder of this paper describes the ESG metrics and the nature of the ownership data that we use; presents the results of our analyses; and finally concludes with observations for deeper study into the question of ownership and firms' ESG behavior.

I. Data and Variables

A. Sample and data sources

The primary measurement of ESG activities in this paper draws on Thomson Reuters Eikon, which provides an aggregate ESG score as well as the scores for the constituent environmental, social, and governance dimensions at different levels of aggregation, as

described below. To build our sample and database, we begin with the universe of companies with Eikon ESG scores—a starting point of 4,608 firms from 2002 to 2019.

Eikon also provides information on the largest *direct* shareholders of these firms and their equity holdings. However, over 36 percent of these shareholders (217,621 in total) are classified in Eikon as "Corporations" or "Holding Companies", implying that these are just intermediary entities behind which lie firms' ultimate owners, which are the ones we are interested in. As the international corporate ownership literature has shown, intermediary entities like these are generally part of complex networks of pyramidal and cross shareholdings through which the ultimate owners enhance their control rights (La Porta et al., 1999; Faccio & Lang, 2002; Claessens et al. 2000). Consequentially, relying solely on Eikon's classification would inevitably obscure the identities of corporate owners, misclassify owner types, and thus lead to biased findings. To remedy this situation, we use an extensive range of sources, including corporate annual reports, proxy statements, regulatory documents, and media reports, to manually identify and verify the identities of the ultimate owners behind each firm's ten largest direct shareholders, as described below.

After matching information on shareholders and board members at the firm-year level we are left with 3,083 firms for which we have detailed ownership and ESG data. These data are then merged with financial and operational metrics that we extract from Thomson Reuters DataStream. Our final sample comprises 26,481 firm-year observations from 3,083 firms over the 18-year period between 2002 and 2019, spanning 62 countries and 30 industries.

Table I shows how the observations in our sample are distributed across years (Panel A), industries (Panel B), regions (Panel C), and countries (Panel D). As Panel A shows, most of our observations—about 88%—are from after 2006. Panel B shows that the top ten industrial sectors account for two thirds of the entire sample. Panel C shows that the three most strongly represented regions in terms of number of companies reporting are Asia Pacific (37.10%),

North America (27.70%), and Western Europe (23.89%). Regarding national distribution (Panel D), the United States (6,003), Japan (4,149), United Kingdom (2,365), Canada (1,332) and Australia (1,289) account for over 57% of the entire sample.

B. ESG Data

Our primary data are drawn from the Eikon ESG database, which was developed as an enhancement and replacement to Asset4. Founded in 2003 and acquired by Thomson Reuters in 2009, Asset4 was the first data provider that constructed ESG scores to evaluate corporate sustainability performance (Huber and Comstock, 2017). Their database has been widely used in the empirical finance and management literature (e.g., Halbritter & Dorfleitner, 2015; Rees & Rodionova, 2013, 2015; Drempetic et al., 2020), and its coverage universe comprises listed companies ranging from the S&P 500, Russell 1000, MSCI Europe, FTSE 250, ASX 300 to the MSCI World Index and the 250 MSCI Emerging Markets companies. Eikon ESG was part of Thomson's Financial and Risk unit, which was acquired by the London Stock Exchange Group and renamed "Refinitiv" in 2018.

Eikon ESG integrates 178 comparable key performance indicators (KPIs) based on over 400 firm-level metrics. Unlike other prevailing ESG databases such as Sustainalytics, Corporate Knights Global 100, and the DowJones Sustainability Index, which adopt industry-specific topics and questionnaires, the KPIs and metrics used by Eikon are comparable and relevant across most industries. The raw data and information are collected by Thomson Reuters' content analysts using publicly available sources including company websites, annual reports, and CSR reports, or contributed by firms and then audited and standardized. These KPIs and metrics are then grouped into ten categories under three main dimensions, i.e., environment, social, and governance, and are updated on a bi-weekly basis. Figure 1 depicts the structure of the Eikon ESG dataset.

Improving upon the equal weighting method used in Asset4, Eikon ESG weights the dimensional scores proportionally to the counts of their respective constituent categories. A dimension that is more mature in terms of disclosure would be assigned a higher weight. Likewise, a category that contains multiple KPIs or metrics with relatively greater transparency or easier data access, such as management, which covers a wide range of topics related to board composition, diversity, independence, executive remuneration, corporate strategy and vision, etc., will receive a higher weight than lighter and less reported categories such as human rights or CSR strategy. To facilitate comparable analysis, the scores for the constituent categories under the environment and social dimensions are converted into percentile ranks benchmarked against Thomson Reuters Business Classifications (TRBC) and the scores of the constituent categories under the governance dimension are benchmarked against countries of incorporation.

As alternatives to Eikon ESG, we also use Sustainalytics and Bloomberg's ESG database to verify the robustness of our results to the source of ESG data.

Table II contains definitions of the variables used in our study, including key ESG metrics (Panel A), ownership measures (Panel B), and financial variables (Panel C). Table I also reports descriptive statistics for the ESG scores for the entire sample and separately by year (Panel A), industrial sector (Panel B), region (Panel C), and country (Panel D). The aggregate ESG performance of our sample firms is 45.25 on the aggregate ESG score, 39.69 on the *Environment* (E) score, 44.44 on the *Social* (S) score, and 51.53 on the *Governance* (G) score. Since these scores indicate firms' percentile ranks relative to their industry (for E and S) and country (for G), the implication is that our sample firms on average score below their industry median rank on social and (especially) environmental dimensions, and as a result on the aggregate ESG score, but they score slightly above their national median rank on governance.

In Panel A, we report a steady improvement in the sample firms' ESG performance over time, in particular from 2007 to 2019, which may reflect in part the growing awareness and action of sustainable business practices encouraged by investor engagement, regulations, and societal expectations (Clementino & Perkins, 2020). With regard to the dimensional performance, *Environment* displays the largest standard deviation, as firms' performance in the environmental dimension is likely to relate to the stringency of national environmental regulations and the intensity of industrial pollution (Amel-Zadeh & Serafeim, 2018). Panels B, C, and D highlight the industrial and geographical variation of the ESG scores.

C. Material owner types

We classify the ultimate owners of the ten largest direct shareholders in each of our sample firms into the seven types that are most prevalent: founding families, other individual investors, public corporations, government-affiliated entities, institutions, employees, and management. Some of our regressions use dummy variables indicating the presence of these owner types among the firm's material owners, using institutional investors as the baseline category to avoid multicollinearity—since institutional investors are present as material owners in virtually all sample firms (98.97%). In a separate set of regressions, we employ seven continuous variables that aggregate the ownership percentages under the different material owner types (including institutional investors), to examine more closely how the ESG scores relate to varying levels of shareholdings.

The most difficult material owner type to identify and classify as such are founding *Families*, which include the founders of the now-public firms in our sample and/or the founders' families. Following Villalonga and Amit (2006), we define a firm's founder as the person who is responsible for the firm's early growth and development. However, this person need not be the same individual who started and incorporated the company or a predecessor business, nor the one who took the company public. For example, the Quandt family in

Bayerische Motoren Werke (BMW) AG, the Jung family in Kia Motors, the Arnault family in Christian Dior, and the Sulzberger family in the New York Times all entered these previously existing companies by acquiring them at a time of financial distress. In these and similar cases, the new controlling owner came to be widely considered as the founder due to his or her significant contribution to the firm's restructuring and reinvigoration.

Information on founders for all our sample firms was manually collected and cross-verified to reduce arbitrariness using corporate websites, annual reports, proxy statements, various stock exchange filings, and news reports. Founders' names are then cross-checked with the identities of the direct shareholders and ultimate owners and the names and titles of board members and senior executives, to confirm the continued involvement of founding family members as shareholders, directors, or managers in our sample firms. We combine STATA's fuzzy matching program (based on a similarity score of 30 percent) and manual verification to explore to a maximum degree the potential lineal and collateral kinship between founders, shareholders, and board members.

We maintain *Individual* investors, which is the ownership category labeled in Eikon as "private investors," as a separate owner type from founding families, since the socio-emotional wealth maximization motives that have been theorized to drive family firms' distinct behavior (see Gómez-Mejía et al. (2011) for a review) may not apply to non-founding families. Indeed, Villalonga and Amit (2010) find evidence that individuals and families can differ significantly in their revealed preferences for certain firm choices based on whether they belong to the founding family or not. However, we relabel the category as "individual" rather than "private" investors to avoid confusion with private equity investors, which are included among institutional owners in Eikon and in our sample.

Following La Porta et al. (1999), public *Corporations* as material owners are those that are widely held themselves, with no identifiable controlling owner behind them. *Government-*

affiliated entities include: central and local government departments, government shareholding agencies, state-owned enterprises, sovereign wealth funds, policy banks, and public pension funds. *Employees* include individuals and employee ownership associations such as ESOPs in the United States. *Management* includes the senior executives of corporations that are listed as owning shares in proxy statements or similar documents. By construction, the employee and management ownership categories exclude individuals who are members of the founding family, who are classified under "family." *Institutions* include commercial banks, investment banks, asset management companies, insurance companies, investment trusts, mutual funds, exchange-traded funds, hedge funds, venture capital firms, and private equity firms.

Table III shows summary statistics for the different material owner types, which are defined in Table II, Panel B. As the table shows, governments (42.72%) and founding families (39.41%) are among the most prevalent material owners after institutional investors. While unreported, the average number of material owner types per firm increases marginally over the observation period, from 1.79 in 2002 to 2.36 in 2019, with a sample mean of 2.28. In terms of the aggregate shareholdings by owner type, institutional investors are the most significant holders (24.88%) followed by families (7.59%) and governments (1.27%).

Table IV shows the distribution of shareholding percentages across different types of material owners by year (Panel A), industry (Panel B), and region (Panel C). Panel A shows changes in shareholdings of different owner types between 2007 and 2019, which years constitute the majority of our sample. The degree of ownership concentration, here measured as the combined shareholdings of the ten largest shareholders, increased steadily over this period, from 29.74% in 2007 to 37.29% in 2019. As noted by Doidge et al. (2017) and Grullón et al. (2017), the factors encouraging ownership concentration include a decline in initial public offerings (IPOs) across most developed markets and an increase in merger and acquisition (M&A) activity, including going-private transactions driven by the increase in the relative costs

of being publicly listed in terms of heightened regulatory and disclosure requirements (e.g., from Sarbanes-Oxley). These patterns are consistent with De La Cruz et al. (2019), who document the growing importance of government and institutional shareholders in global equity markets using a sample of the 10,000 largest publicly listed companies.

Panel B shows that founding families are prominent owners in insurance (32.63%), real estate (16.42%), cyclical consumer services (11.98%), food & drug retailing (11.08%) and, of course, investment holding companies (17.90%). Unsurprisingly, government shareholdings are more significant in regulated industries including utilities (3.74%%), telecommunications services (3%), uranium (2.46%), and banking and investment services (2.07%).

The second column of Panel C shows the variation of top-ten ownership concentration across different regions, ranging from 41.81% in Central and South America) to 25.27% in Central & Eastern Europe. Institutional investors as a category are by far the largest shareholders throughout the observation period (Panel A) and in most industries (Panel B) and regions (Panel C). The dominance is largely due to their significant presence in advanced markets, notably North America and Western and Northern Europe. These patterns echo Beck et al. (2002) and La Porta et al. (2008), who find that institutional shareholdings are more prevalent in regions with stronger legal protection of shareholder rights and more mature financial systems. Families are the next largest shareholder across owner types (and the largest *individual* shareholder) in all regions, even larger than institutions in Central & South America (where they hold a 19.90% aggregate stake). They are also the next largest shareholder across all years and all industries except uranium (where governments are the second largest).

D. Other variables

We use Thomson Reuters DataStream to collect or construct several financial and operational metrics that we use as control variables in our analyses: profitability, leverage, firm age and size, market value, price volatility, liquidity, primary industry, and country where the

firm is headquartered. Most explanatory variables are winsorized at the 1% and 99% levels to mitigate potential biases from outliers. We also control for the fixed effects of years, industrial sectors, and countries. Table V reports summary statistics for these variables, which are defined in Table II, Panel C.

Table VI reports the correlation matrix for all variables in our study. We detect no serious multicollinearity problem among the explanatory variables. The variance inflation factors for the explanatory variables range from 1.0 to 1.3, with an average of 1.1, well below a conservative threshold of 2.5.[2] However, firm size is significantly and positively correlated with all ESG scores. Unreported univariate tests find that firms in the upper quantile of firm size on average have significantly higher ESG performance on each of the dimensional scores as well as on the aggregate one. The differences range from 21.90 for Environment to 8.79 for Governance. This is consistent with Dorfleitner et al. (2015), who find that large firms generally obtain higher ESG ratings due to enhanced reporting activities. The correlation between ESG scores and financial performance (profitability and Tobin's Q) is close to zero.

II. Results

A. Ownership concentration, shareholder diversity, and ESG

First, we examine the association with ESG performance of the diversity in material owner types within a firm and of ownership concentration—while controlling for firm profitability, leverage, firm age and size, valuation, price volatility, and liquidity, as well as year, industry, and country fixed effects. Table VII reports the results. In this and all subsequently reported regressions, standard errors are clustered by industry and country.

[2] Variance inflation factors (VIFs) are commonly used to detect multicollinearity among the independent variables. The VIF is computed as $1/(1-R_q^2)$, where R_q^2 is the R^2 from a regression of independent variable q on all the remaining independent variables. As a rule of thumb, a variable whose VIF value is greater than 10 may merit further investigation. Some authors suggest a more conservative threshold of 2.5 or above.

It is important to note that ownership concentration is measured at the individual shareholder level (the ten largest direct shareholders) and is blind to material owner type (i.e., the ultimate owners behind those ten shareholders may be ten institutions or several different owner types). In contrast, owner diversity is measured at the material (i.e., ultimate) owner level. Although a high number of different material owner types (i.e., high owner diversity) is likely to constrain the direct holdings of their underlying individual shareholders, the correlation between the two variables across their entire distributions need not be negative. In fact, Table VI shows that the correlation between the two measures is positive but not high (0.21). The small size of this correlation coefficient also rules out potential multicollinearity concerns about including them in the same regression.

In summary, while material owner diversity and ownership concentration are related measures, they capture different aspects of a firm's ownership and control structure and can have different effects on ESG performance. We find that this is indeed the case.

Consistent with Barnea & Rubin (2010) and Harjoto & Jo (2011), we find that concentrated ownership is significantly associated with lower ESG performance. This is primarily driven by an extremely lower *Governance* (G) score for firms with concentrated ownership and not due to lower scores on *Environmental* (E) or *Social* (S) dimensions, whose individual coefficients are nonsignificant. From a legitimation perspective, the need for public accountability—especially around governance—may be less of an issue in firms with concentrated ownership structures. These firms may feel more insulated from normative external pressure to adopt more "responsible" governance practices than their widely held counterparts (Ntim & Soobaroyen, 2013).

In addition, owner diversity, measured as the number of different owner types among a firm's material owners, also has a significantly negative impact on the aggregate ESG score as well as on all three individual components. While managers attend to those shareholders having

the power to reward and/or punish them (Mitchell et al., 1997), having a broader set of material owner types might heighten conflicts of interests and incentives among the major owners and make it more difficult to have a clear ESG agenda—or possibly any agenda.

B. Material owner types and ESG performance

To investigate the associations of owner types with ESG performance controlling for other possible influences, we introduce the set of indicators of material owner types as the key explanatory variables of interest in Table VIII. Column 1 shows that firms with founding families as material owners on average perform 4.6 units worse in term of aggregate ESG performance (relative to firms with only institutional owners, which serve as the baseline category). This is equivalent to 10.2% of the sample average ESG score. Similarly, material owners who are individual investors (non-family, non-management) also underperform with respect to ESG, perhaps reflecting lower demand by these owners for ESG activities. This is not only true for the combined ESG score, but also for each of the environmental, social, and governance subscores.

Managers who have material shareholdings are associated with substantially higher ESG performance. This result is both economically and statistically strong. More specifically, the small fraction of firms with (non-family) senior executives among their ten largest shareholders perform on average 14.0 units better or almost 31% above the sample average. Having material management stakes is also associated with substantially higher subscores for environmental, social, and governance activities.

Public corporations as material owners underperform on the governance dimension, but not on the environmental or social subscores. The presence of a government-affiliated entity as a major owner is associated with higher environmental performance, but the significance is modest both economically and statistically. Interestingly, firms with government stakes

perform no differently than other firms with respect to social or governance activities. Employees as material owners have no significant impact on ESG or any of its components.

It is important to note that these associations between ownership and ESG performance hold while controlling for a host of other factors. Profitability, Tobin's Q, firm size and age, and liquidity are all positively and significantly associated with ESG performance, suggesting that in a multivariate framework, more stable and sound business performance is associated with greater ESG activities. Higher leverage, as measured by the debt to equity ratio, is weakly and negatively related to governance but not to other dimensions of ESG performance.

C. Material owners' shareholdings and ESG scores

In Table IX, the material ownership variables are incorporated as shareholding percentages (v. dummy variables) by different types of material owners to examine whether the level of shareholdings of different owner types is associated with ESG performance. The findings are consistent with the binary results presented above, with greater shareholdings by families and individual investors associated with lower ESG scores (and corporations only for governance), and greater shareholdings by managers and governments associated with higher environment and social scores but not with governance scores (although in the case of management, their shareholdings are also positive and significantly associated with the aggregate ESG measure). For example, a 10% increase in *Management Shareholdings* is associated with an improvement of 4.7 units in *ESG*, 6.75 in *Environment*, and 6.68 in *Social*, representing 10.4%, 17.0% and 15.0% of the respective sample averages.

This specification also permits us to separately examine the relationship between the level of material *Institutional Shareholdings* and ESG scores. Perhaps not surprisingly, greater material institutional ownership is significantly associated with stronger governance, as measured by the G component of ESG. This association is consistent with an interpretation that major institutional investors would have sufficient motivation and ability to gather information

and impose market discipline on management using different engagement channels (Ertimur et al., 2013; McCahery et al., 2016), which should translate into better governance practices (Borochin & Yang, 2017). Less obvious is why the level of material *Institutional Shareholding* is unrelated to ESG and its environmental and social component. Further research on characteristics such as institutions' investment horizons, portfolio concentration, screening strategies, and cost structures is warranted.

As noted above, ESG can be broken down into the three primary components, which in turn can be decomposed into ten more granular measures, including resource use, emission reduction, etc. In Table X, we analyze these ten subcomponents using the shareholding percentage measures. The results remain strikingly consistent. The presence of founding families and individual investors with material stakes is respectively associated with significantly lower scores on eight and nine of the ten subcomponents, which suggests that the low-ESG orientation of these shareholders is across the board. The governance underperformance of firms with material *Corporate Shareholdings* is concentrated in the two subareas of management practices and shareholder equality; they also underperform on the area of human rights (a subcomponent of the *Social* subscore).

We see similar nuances when decomposing the relationship between ESG and material management stakes. While Tables VIII and IX show an extraordinarily strong relationship between management stakes and ESG, Table X shows that this is mostly a result of above-average performance on two of three E measures (resource use control and emission reduction) and two of four S measures (workforce development and human rights) as well as CSR strategy (a G measure)—but not on management practices or shareholder equality. In the same manner, government holdings load positively due to firms' activities in only four particular subareas: resource use control, emissions reduction, workforce development and CSR strategy.

The most mixed results arise from the decomposition of effects of material institutional ownership. Firms with large institutional stakes owe their superior performance on the G subscore to management practices and shareholder equality measures, but not to their CSR strategy per se. They also perform slightly worse on environment innovation and human rights, although the statistical significance of these results does not make it to the next level of aggregation (the E and S subscores shown on Table IX).

One would think that the presence of a material employee stake (e.g., an ESOP) on a firm would be associated with some elements of the S-score, in particular workforce development. While employee stakes are more frequent and larger than management stakes in our sample (See Table III), they are never associated with any enhanced ESG performance at any of the three levels of disaggregation (ESG; E, S and G; and the ten subcomponents). We cannot tell if this reflects preferences or a weak voice of employee groups on boards and shareholder proposals.

While we sometimes think about ESG as a monolithic rating, these results remind us that these scores are an amalgam of a wide range of corporate practices. For the climate mitigation agenda, "emission reduction" activities would be most relevant. Groups seeking to have firms focus on human rights would find that sub-category most informative. However, the across-the-board underperformance of firms with material individual and family stakes might alert us to more systemic issues in these firms.

Likewise, our sample spans a large number of countries with different ESG regulations and cultures, and although we include country fixed effects in our regressions, our results may mask important differences across geographical areas. In unreported analyses, we re-run our regressions on subsamples of firms from different regions (e.g., Asia, Western Europe, etc.). Overall, our results for individual regions are consistent with those reported here, but the significance of the coefficients changes sometimes. For instance, we find no significant effect

of governments on any ESG dimensions in Asia, and no significant effect of families on the E or S dimensions (only on G) in Northern and Western Europe. We leave the exploration of these differences for future research.

D. Robustness Tests: Alternative ESG Measurements

We acknowledge that ESG metrics are imperfect. A series of studies compare ESG rating methodologies and suggest inconsistency of ESG measurements, as indicated by the low correlation among the ESG scores provided by different database providers (e.g., Semenova & Hassel, 2015; Chatterji et al., 2015; Halbritter & Dorfleitner, 2015). The different composition and weighting of the indicators lead to significant discrepancies in the final ESG appraisals. Moreover, some studies have denounced inconsistencies between different editions of the same database—particularly Asset4—due to backfilling of data (Berg et al, 2021).

To test the robustness of our findings to variations in ESG rating methodologies, we repeat the baseline regressions in Tables VIII and IX using ESG scores from two other leading data providers, Bloomberg and Sustainalytics, in lieu of the Eikon ESG data. The results are reported on Tables A.I through A.IV in the Internet Appendix. Our results hold qualitatively despite the significant reduction in the number of observations. In particular, the strong negative relationships between family and individual material stakes and ESG are robust to alternative ESG data (all except the Sustainalytics metrics when regressed on owner type dummies for the family indicator), and the positive relationships between government stakes and environmental and social metrics is similarly robust. The positive association of various ESG measures with management material owner dummy and shareholdings is reproduced in the Bloomberg data set but not on Sustainalytics. Employee shareholdings are negatively associated with the E, S, and ESG Sustainalytics scores while the dummy is positively associated with the G score on Bloomberg.

To analyze the sensitivity of our results to the possible inconsistencies between current and historical ESG scores in the Eikon database and its predecessor Asset4 due to backdating of data, we re-estimate the same regressions using the Asset4 ESG scores extracted in July 2018 as alternative dependent variables. The results, reported on Tables A.V and A.VI of the Internet Appendix, suggest that our results are highly robust to such possible inconsistencies.

E. Self-Selection Bias

Although most ESG data providers, including Eikon, rely on a variety of raw data sources to produce their ratings and subject any self-reported data by firms to some form of external audit, if firms do not publish any CSR / sustainability / integrated report and do not respond to ESG surveys, they may not be covered at all by any of these providers. If so, a concern may be raised that the firms in our sample are to some degree self-selected. Specifically, if underreporting of ESG data is reflective of little or no environmental and social activity and/or poor governance practices, our estimates may be upwardly biased in general. If certain owner types, e.g., individuals or families, are less transparent than others in their ESG reporting (as they have been shown to be in their financial reporting—Anderson et al., 2009), this bias may systematically differ across owner types, raising questions about the validity of our comparative results about owner types and ESG.

To address this possible self-selection bias, we employ Heckman's (1979) two-stage procedure to estimate a selection model, using a data source that *does not rely on firms' self-reporting* to estimate the probability of observing an ESG score: Thomson Reuters' ESG controversies database. The controversy news materials are manually compiled by the analysts of Thomson Reuters following global media sources to cover 23 ESG topics. They are further classified into seven categories including resource use, community, human rights, product responsibility, management, shareholders, and workforce issues (Thomson Reuters, 2017). (The Appendix provides a complete list of the ESG controversy topics and categories.) These

data are available for almost all of our sample firms (26,207 firm-year observations out of 26,481) as well as for an additional 2,171 observations. We are thus able to estimate a selection model in which the first-stage is a probit model of the probability that a firm-year observation is in our sample (which in turn requires that an ESG score is available from Eikon), and the second-stage follows the same specification as the baseline regressions in Tables VIII and IX but include the inverse Mills ratio derived from the first-stage probit model to control for the possible selection bias.

The explanatory variables in the first-stage probit include all the variables in the respective baseline regressions as well as the count of ESG controversies under different categories that a sample firm is involved in during the previous fiscal year—the variables to which we apply the exclusion restriction in the second stage.

The rationale for this model is as follows. The exposure of any wrongful conducts and/or negative events at home or abroad is fact-based and relies less on self-reporting by the firms or the existence of disclosure policies and procedures. The materiality of the controversies and the potential reputational damage raise the attention of market participants including financial analysts and institutional investors (e.g., Henisz et al., 2014; Luo et al., 2015; Capelle-Blancard & Petit, 2019) and thus increase the observability of the ESG rating (e.g., Amel-Zadeh & Serafeim, 2018; Durand et al., 2019). We thus expect companies that have attracted negative media attention on ESG matters to be more likely to report ESG data on subsequent years to control the potential reputational damage. Unreported pooled OLS regressions find no statistically significant correlation between the ESG scores and the counts of the ESG controversies under their respective categories, suggesting that latter satisfies the exclusion restriction requirement.

The results from the first-stage estimation are shown in the Internet Appendix. Table IA.VII reports on the specifications with owner type dummies, while Table IA.VIII reports on

those with the shareholdings of different owner types. Both tables show that controversies related to human rights and the firm's workforce are statistically significant predictors of the probability of a firm having all four ESG scores on Eikon (the aggregate score and the three subscores of E, S, and G), and therefore being included in our sample the following year. Community-related controversies are also a strongly significant predictor of a firm having an environmental score the following year, which is consistent with the findings of Dorobantu et al. (2017). Management-related controversies are also significantly associated with the firm's probability of having an E score as well as an aggregate ESG score, but only weakly so and for the first model (Table IA.VII).

These first-stage results also show that ownership matters not just for ESG performance but for ESG reporting as well. Firms that have a corporation as a material owner are less likely to report ESG data of any kind, and less so the larger the ownership stake is. The presence of a government entity as a material owner is also negatively associated to the probability of reporting E and G-related information, but not S-related information, and the size of the shareholdings is nonsignificant. The same is true for families and individual investors regarding E and S information, but not G or ESG in the aggregate. In contrast, institutions and employees' material shareholdings are associated with a higher probability of E reporting (and aggregate ESG in the case of employees), but their sheer presence as material owners is nonsignificant. Management as owners have no significant impact on a firm's likelihood to report ESG data of any kind.

Table XI reports the second-stage estimation results for the owner type dummies specification corresponding to the first-stage results reported on Table IA.VII. Again, the dependent variables are the aggregate Eikon ESG score (column 1) as well as the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. The signs and magnitudes of the coefficients on the dummy variables of different owner types

are similar to the single-stage estimates reported in Table VIII. The coefficients on the inverse Mills ratio are positive and mostly statistically significant, indicating that exposure of the ESG controversies in the previous fiscal year increases the likelihood of the ESG scores to be observed.

We apply the same procedure and re-estimate the baseline regressions of the ESG scores on the shareholding percentages by different owners. As shown in Table XII, the second-stage pooled OLS regressions also control for the inverse Mills ratios from the estimation of the first-stage probit shown on Table AI.VIII and yield similar results to the single-stage estimates shown in Table IX. In fact, after controlling for self-selection bias, institutional ownership's negative association with both the E and S subscores becomes statistically significant, while its positive association with the G subscore remains positive and also significant.

F. Endogeneity, Simultaneity, and Reverse Causality

Another critical challenge that has prevented researchers from drawing conclusive inferences about the effect of certain ownership characteristics on ESG are the possible biases resulting from endogeneity (Harjoto & Jo, 2011), simultaneity, and/or reverse causality (Jo and Harjoto, 2011, 2012). The endogeneity of ownership structure has been extensively discussed by Demsetz (1983) and empirically confirmed by Demsetz & Lehn (1985), Demsetz & Villalonga (2001), and Coles et al. (2012), among others (see Demsetz and Villalonga (2001) as well for a review). As these empirical studies show, one of the factors driving the endogenous choice of ownership structure by a firm's shareholders and investors is the firm's economic and financial performance, thus creating a reverse causality issue (a specific form of endogeneity bias) in the estimation of the effect of ownership structure on performance.

It is likewise possible that ESG performance levels or changes may attract or deter certain types of investors. For example, deteriorating ESG performance could prompt a

founding family, driven by the desire to preserve the founder's legacy and the family's reputation, to expand its shareholdings and engage with management (Villalonga, 2018). Meanwhile, strategies for stock screening and selection based on ESG criteria can cause firms to be favored or disfavored by particular types of institutional investors, leading to increases or declines in the corresponding institutional shareholdings (Clark & Viehs, 2014). The failure to take this endogeneity and reverse causality into account is likely to yield biased or inconsistent estimates of the impact of ownership on ESG performance.

Because our models include multiple measures of ownership (structure, types, and/or shareholdings) rather than a single summary measure (e.g., ownership concentration), we face an additional problem of simultaneity: For each ESG metric, we have a system of eight equations (one for the ESG metric and seven for each type of owner or its shareholdings). Accordingly, we cannot simply estimate a two-equation model via two-stage least squares (2SLS) or instrumental variables (IV) as studies of the effect of ownership on financial performance have done. Rather, a three-stage least squares (3SLS) approach (Zellner and Theil, 1962) is required to address these three estimation issues (simultaneity, endogeneity, and reverse causality).[3]

To find instrumental variables that are correlated with our ownership measures but not with our ultimate dependent variables (the ESG score or its components), we first adjust the ESG scores for industry by subtracting from them the average score for their industry defined by the TRBC codes) and year. Then, for each of the owner types, we use four different instrumental variables that capture the attractiveness of an industry, to a particular type of

[3] 3SLS is a combination of *Seemingly Unrelated Regressions* (SUR)—the generally accepted method for estimating simultaneous equations systems—and 2SLS—the generally accepted method for correcting endogeneity and reverse causality biases (see, e.g., Greene, 2018). 3SLS is a form of instrumental variables estimation that accounts for the correlations between error terms across several equations, thereby improving upon the efficiency of equation-by-equation estimation. The first stage yields estimates of the residuals of all the structural equations. The second stage uses the estimated residuals to construct the optimal instrument—the disturbances variance-covariance matrix. The third stage is the joint estimation of the system of equations using the optimal instrument.

corporate owner, given the social and cultural factors that may give rise to the prominence of the corresponding type of corporate owner. The approach follows Campa and Kedia (2002), who use similar instruments to correct for the endogeneity of diversification when estimating its effect on firm's excess values (industry-adjusted valuation multiples). The four instruments we use for each owner type are: (1) the percentage of all the sample firms in an industry that have the same type of owner among their ten largest shareholders (*Owner's Frequency in Industry*); (2) the percentage of revenues in the industry accounted for by other firms that have the same type of material owner (*Owner's Contribution to Industry Revenue*); (3) the average shareholdings by the same type of material owner in the industry (*Owner's Industry Shareholdings*); and (4) the average shareholdings by the same type of owner in a region (*Owner's Regional Shareholdings*).

We also follow Demsetz and Lehn (1985), Demsetz and Villalonga (2001), and Villalonga and Amit (2006) and use market risk and idiosyncratic risk as additional instruments. As argued by Demsetz and Lehn (1985), these risk measures proxy for firms' "control potential" (management's need to be monitored by an owner) but should be uncorrelated with firm performance (financial or non-financial).

Table XIII reports the 3SLS estimation results for the aggregate ESG score and the continuous shareholding variables. Results for the E, S, and G components and the owner type dummies are not reported to conserve space but are available upon request. Column (1) shows the results of a single-stage OLS estimation with industry-adjusted ESG as the dependent variable, for comparison. The results are very similar to those shown on Table IX for unadjusted ESG. Column (2) shows the 3SLS estimates of the same equation, in which the adjusted ESG score is regressed on the predicted shareholding percentages for each type of corporate owners taking the error term correlations into account. Columns (3) to (9) present

the results from the first stage of the 3SLS method and indicate potential determinants of the shareholdings of different types of material owners.

A comparison between the results in columns (1) and (2) of Table XIII suggests that, even after controlling for factors that would predict the likelihood of material ownership by type, our single-stage results are robust. Firms with material owners who are founding families, other individual investors, and corporations show lower ESG performance, while those with government ownership demonstrate higher ESG performance. In fact, corporate and government ownership, become statistically significant after controlling for their endogeneity. Only management shareholdings loses the statistical significance it had on the single-stage analyses.

G. Founders v. Descendants

Villalonga and Amit (2006) show that, when evaluating the financial performance of family firms, it is important to distinguish between family ownership, control, and management. While family ownership is positively associated with firm value, control in excess of ownership is negatively associated to it. The effect of management is entirely contingent on the CEO's generation: while firms with a founder-CEO outperform all others (including non-family firms), those with a descendant-CEO underperform. These findings suggest that a similar exploration may be warranted to understand the mechanisms driving the association between family ownership and ESG performance found in this study. Moreover, the contrast between our findings about ownership by the founding family v. management (which excludes family members) further suggests that it may be worth separating the effects of family-CEOs from those of family owners who do not hold such managerial roles. Is the dual role of family owner and manager conducive to higher ESG performance among family firms as it is for non-family managers or to lower ESG performance as it is for family owners?

And do these results vary with the family CEO's generation as they do for financial performance?

To address these questions, we replace our family material owner indicator with four different dummy variables based on these two criteria—whether family owners (including material shareholders as well as directors) are also CEOs or not, and whether they are founders or descendants. The results, which are reported on Table XIV, show that the distinction between family CEOs and family owners who are not CEOs is the pivotal factor in the relation between family ownership and ESG performance: While non-CEO founder and descendant owners retain the negative sign of our earlier regressions and have coefficients that are similar in size, both founder and descendant CEOs have a *positive* and significant association with ESG and its three components. Moreover, while having a founder-CEO offsets some but not all of the negative effect of founder ownership, having a descendent-CEO more than offsets the similar effect of descendent ownership, with the net effect being positive for ESG, Environmental and Social performance (but not Governance.)

These results, taken together with the substantially positive relationship between material management stakes and ESG scores, suggest that manifesting concern for the environment, employees, and the community—through higher ESG scores—seems stronger among CEO-owners, whether they are members of the founding family or not, than among any other material owners.

III. Conclusion

The premise of this paper rests on two beliefs or assumptions. First, that firms should, whether as a matter of self-interest or public interest, concern themselves with a wide range of environmental, social and governance considerations. Second, that these activities are measured, albeit imperfectly, through a range of ESG metrics. If so, then we should care about how the instruments of control—ownership and management—relate to firms' ESG agendas.

We show that even after controlling for firm size, industry, age, location, and other factors, the structure and identity of its ten largest shareholders is systematically related to ESG performance. Firms with more concentrated shareholdings and a more diverse set of material owners systematically underperform on ESG metrics. Furthermore, the identity of these shareholders matters. Firms whose material owners include managers and governments perform better on ESG metrics, while those with individual, family, and corporate holders perform worse. These results hold not only for simple indicator variables for owner types, but also for their shareholdings. They hold not only for ESG, but also for its three constituent parts and for the ten sub-components. They persist even when using data from a variety of ESG data providers, from different dates of download, and when controlling for potential self-selection bias and for the endogeneity of ownership.

Ownership matters, but so does management. Not only do we observe that firms with material managerial stakes outperform on ESG metrics, but firms with family CEO-owners in do better than those in which the CEO is not a family member (both family and non-family firms). The revealed preference of family CEOs for ESG seems to be greater among descendants than among founders of family firms.

It would be naïve to think that this work suggests that a mechanical change in the ownership stakes in firms would enhance their ESG performance. ESG itself is a dimly understood amalgam of a host of firm behaviors, and in many contexts we are better off by focusing on a narrower set of behaviors, such as greenhouse gas emissions or human rights violations. However, these results are valuable in challenging certain owners' self perceptions of their behavior. Why is it that family owners describe themselves as the long-term stewards of their workforces, their communities and our planet—but systematically perform so poorly on every single dimension of ESG? What explains this apparent inconsistency? And why do firms with owner-managers have such pronounced appetites for ESG activities? Are enhanced

ESG activities a function of their preferences, their capability to effect change more easily, or both? There is a need for greater research, both in terms of understanding specific ESG activities and the mechanisms by which the differences we observe are translated into firm activities. But beyond research, we hope that the results in this paper will (continue to) spark conversations by owners about their roles, and their firms' roles, in profitably addressing the needs of people and planet.

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Table I
ESG Scores: Summary Statistics

Means and standard deviations for the ESG scores by year (Panel A), industry (Panel B), region (Panel C) and country (Panel D). The ESG scores are extracted from Thomson Reuters Eikon. They include an aggregate ESG score as well as the scores for the constituent environment, social, and corporate governance dimensions. The sample comprises 26,481 firm-year observations from 3,083 firms during 2002–2019, spanning 62 countries and 30 industries. The industrial distribution is based on Thomson Reuters Business Classification (TRBC) codes, and the regional and country distributions are based on the countries where the firms are headquartered.

Panel A: By Year

		ESG		Environment		Social		Governance	
Year	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
2002	283	33.23	15.79	19.90	23.39	31.66	18.38	47.45	21.46
2003	413	33.02	15.82	20.23	23.39	31.54	19.73	46.41	21.71
2004	590	34.20	17.20	20.13	24.52	33.53	20.36	48.19	22.53
2005	851	35.15	17.40	23.50	25.33	33.53	20.12	48.43	22.14
2006	987	35.15	18.27	24.45	25.54	33.43	20.99	47.56	22.72
2007	1,048	39.73	19.51	32.27	27.54	38.38	22.94	48.25	22.12
2008	1,148	42.62	20.29	37.97	28.43	41.12	23.69	49.01	22.20
2009	1,310	44.33	20.74	40.53	28.61	42.65	24.09	50.10	23.32
2010	1,527	44.59	21.09	40.71	28.67	43.16	24.64	50.26	23.03
2011	2,081	42.79	21.14	37.85	28.40	41.14	24.42	49.89	22.75
2012	2,156	43.48	21.01	38.76	28.41	41.76	24.26	50.28	22.64
2013	2,155	43.94	20.92	39.11	28.30	42.33	24.31	50.71	22.74
2014	2,147	44.86	20.60	39.80	27.97	43.63	24.38	51.30	22.23
2015	2,119	47.13	20.50	42.30	27.62	46.40	24.54	52.68	22.12
2016	2,035	49.37	20.30	44.74	27.12	49.43	24.51	53.56	22.02
2017	1,998	51.17	20.12	46.72	26.80	51.71	24.48	54.35	22.00
2018	1,929	53.41	20.20	49.19	26.44	54.29	24.31	55.96	21.73
2019	1,704	55.31	19.84	51.23	26.01	56.78	23.97	57.09	21.58
All Years	26,481	45.25	20.94	39.69	28.44	44.44	24.70	51.53	22.49

Table I—*Continued*

Panel B: By Industrial Sector

		ESG		Environment		Social		Governance	
Industry	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Industrial Goods	2,365	44.67	19.67	42.76	28.13	43.06	23.27	49.00	21.86
Energy - Fossil Fuels	2,326	44.42	21.48	38.97	27.28	42.91	24.51	54.97	23.44
Mineral Resources	2,233	43.78	22.11	40.52	26.68	41.57	25.94	52.64	23.17
Industrial & Commercial Services	1,950	44.35	19.25	38.51	28.09	44.52	24.21	49.75	20.87
Technology Equipment	1,744	48.09	20.84	43.73	26.97	46.69	24.47	55.32	22.03
Cyclical Consumer Services	1,519	43.52	19.85	34.25	28.99	44.26	24.65	46.80	20.41
Food & Beverages	1,472	47.74	23.10	44.63	29.81	47.67	26.06	52.03	22.68
Transportation	1,466	42.63	19.95	36.41	26.13	43.98	23.06	48.66	22.56
Cyclical Consumer Products	1,388	41.85	20.44	36.03	27.76	41.15	24.44	46.92	22.31
Retailers	1,325	42.60	20.04	32.59	30.43	42.63	24.18	48.60	21.07
Chemicals	1,157	47.76	19.95	48.49	23.77	43.18	24.58	54.21	22.51
Telecommunications Services	1,094	49.74	20.70	42.79	28.82	47.82	24.29	59.28	20.18
Software & IT Services	1,002	46.65	20.02	31.42	30.40	48.20	25.00	49.89	22.69
Automobiles & Auto Parts	913	46.03	21.69	47.90	28.62	42.17	24.82	50.01	22.77
Pharmaceuticals & Medical Research	883	47.51	23.18	38.91	30.73	49.32	27.57	52.47	23.19
Healthcare Services & Equipment	800	46.02	20.31	30.59	28.20	46.85	24.23	52.91	22.26
Food & Drug Retailing	518	45.24	20.35	39.72	28.00	45.58	23.86	49.12	23.37
Utilities	512	47.59	19.46	45.26	26.66	46.05	22.77	53.25	20.57
Applied Resources	417	49.08	21.35	48.07	26.46	44.81	24.87	57.62	22.21
Industrial Conglomerates	412	46.24	23.53	43.75	28.73	43.21	25.84	54.82	25.60
Personal & Household Products & Services	372	47.84	22.98	37.60	29.45	47.54	25.38	58.68	23.92
Real Estate	329	41.41	21.05	32.79	28.81	44.12	24.90	47.15	21.31
Renewable Energy	95	51.10	17.47	52.20	22.53	54.27	23.15	47.32	19.05
Banking & Investment Services	75	33.35	18.35	14.05	20.22	33.71	19.88	40.92	24.12
Uranium	55	51.73	21.71	44.59	31.57	55.23	18.21	60.93	19.68
Investment Holding Companies	50	25.73	13.44	19.08	22.50	36.47	14.97	25.52	14.43
Insurance	9	31.28	10.53	19.07	14.33	15.40	9.87	54.50	12.06
All industries	26,481	45.25	20.94	39.69	28.44	44.44	24.70	51.53	22.49

Table I—*Continued*

Panel C: By Region

		ESG		Environment		Social		Governance	
Region	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Asia Pacific	9,824	40.97	20.85	37.77	27.99	36.64	23.97	49.82	22.87
North America	7,335	44.68	20.05	34.68	28.31	45.72	22.50	52.88	22.23
Western Europe	6,325	51.22	20.55	46.92	27.89	53.30	24.47	52.33	22.12
Northern Europe	1,167	53.39	19.84	51.89	27.41	54.80	23.82	51.14	22.03
Middle East & Africa	835	45.24	20.64	36.78	27.51	45.03	24.36	53.59	22.54
Central & S. America	618	46.74	21.69	40.02	27.93	47.52	26.04	52.44	21.66
Central & E. Europe	377	40.02	18.15	34.03	22.83	35.77	21.35	51.43	23.36
All regions	26,481	45.25	20.94	39.69	28.44	44.44	24.70	51.53	22.49

Panel D: By Country (Top 20)

		ESG		Environment		Social		Governance	
Country	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
United States	6,003	45.53	20.00	35.10	28.72	47.05	22.45	52.83	22.08
Japan	4,149	42.02	20.50	43.28	28.89	34.65	22.61	49.38	23.27
United Kingdom	2,365	48.21	18.44	42.49	25.30	48.70	21.78	54.01	21.24
Canada	1,332	40.82	19.79	32.78	26.32	39.73	21.73	53.09	22.92
Australia	1,289	38.95	19.49	28.14	24.92	36.92	21.66	53.87	21.44
China	988	32.47	16.45	25.72	23.12	25.35	17.63	49.93	21.28
France	860	57.44	18.66	58.73	25.73	61.33	22.95	50.17	22.37
Taiwan	822	40.17	23.15	37.07	26.67	36.90	27.47	48.06	24.53
Germany	759	55.67	21.74	54.68	26.97	57.50	25.80	52.79	22.84
Switzerland	685	50.30	23.04	44.63	29.65	52.87	27.29	51.04	23.09
South Korea	650	47.01	25.07	47.28	30.34	44.15	28.36	49.40	24.08
Hong Kong	466	33.40	19.35	25.67	24.56	33.07	23.30	42.49	21.73
Sweden	424	54.72	20.26	51.75	28.51	59.20	23.35	50.39	23.29
India	409	53.95	20.55	48.78	26.04	57.64	23.74	53.79	23.18
South Africa	406	53.69	17.31	47.23	24.16	56.26	19.83	56.55	23.57
Singapore	354	38.31	18.29	30.02	25.15	36.60	21.97	51.72	19.93
Finland	344	55.42	18.87	57.95	25.59	55.06	22.51	50.25	22.09
Brazil	342	51.60	19.06	45.64	25.04	53.70	24.27	53.23	20.66
Netherlands	319	56.08	20.61	49.65	29.42	61.06	21.32	55.88	23.81
Italy	310	52.72	20.79	42.16	32.23	55.22	22.77	55.34	18.91
All countries	26,481	45.25	20.94	39.69	28.44	44.44	24.70	51.53	22.49

Table II
Variable Definitions

Data sources include: Thomson Reuters Eikon for ESG and financial variables; and annual reports, proxy statements, regulatory documents, and media reports for ownership variables.

Panel A: ESG Variables

Variable	Definition
ESG	Score for aggregate ESG performance.
Environment	Score for environment dimensional performance.
Social	Score for social dimensional performance.
Governance	Score for corporate governance dimensional performance.
Resource Use Control	Score for performance in resource use control. This score reflects a firm's performance and capacity to reduce the use of materials, energy, or water, and to find more eco-efficient solutions by improving supply chain management. It belongs to the Environment Pillar representing a percentile rank benchmarked against industrial peers.
Emission Reduction	Score for performance in emission reduction. This score measures a firm's commitment and effectiveness towards reducing environmental emissions in the production and operational processes. It belongs to the Environment Pillar representing a percentile rank benchmarked against industrial peers.
Environment Innovation	Score for performance in innovation of environmental technologies and procedures. This score reflects a firm's capacity to reduce the environmental costs and burdens for its customers, thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. It belongs to the Environment Pillar representing a percentile rank benchmarked against industrial peers.
Workforce Development	Score for performance in workforce development. This score measures a firm's effectiveness towards job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities and development opportunities for its workforce. It belongs to the Social Pillar representing a percentile rank benchmarked against industrial peers.
Human Rights	Score for performance in human rights commitment. This score measures a firm's effectiveness towards respecting the fundamental human rights conventions. It belongs to the Social Pillar representing a percentile rank benchmarked against industrial peers.
Community Commitment	Score for performance in community commitment. This score measures a firm's commitment towards being a good citizen, protecting public health and respecting business ethics. It belongs to the Social Pillar representing a percentile rank benchmarked against industrial peers.
Product Responsibility	Score for performance in product responsibilities. This score reflects a firm's capacity to produce quality goods and services integrating the customer's health and safety, integrity, and data privacy. It belongs to the Social Pillar representing a percentile rank benchmarked against industrial peers.
Management Practices	Score for performance in management practices. This score measures a firm's commitment and effectiveness towards following best practice corporate governance principles. It belongs to the Governance Pillar representing a percentile rank benchmarked against industrial peers.
Shareholder Equality	Score for performance in shareholder rights. This score reflects a firm's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices. It belongs to the Governance Pillar representing a percentile rank benchmarked against industrial peers.
CSR Strategy	Score for performance in CSR strategy communication. This score reflects a firm's practices to communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes. It belongs to the Governance Pillar representing a percentile rank benchmarked against industrial peers.

Table II—*Continued*

Panel B: Ownership Variables

Variable	Definition
Ownership Concentration	Hirschman–Herfindahl index (HHI), defined as the sum of the squared equity stakes of the ten largest direct shareholders.
Material Owner Diversity	Number of different owner types among the firm's *material owners* (ultimate owners behind the ten largest direct shareholders)
Family	A dummy variable that equals one when one or multiple members of the founding family exist among the ten largest shareholders of a sample firm and/or when there are one or multiple members of the founding family serving on the board of directors.
Family Shareholdings	Number of shares held by the members of the founding family as percentage of number of outstanding shares.
Individual	A dummy variable that equals one when one or multiple individual investors who are not members of the founding family or the management team exist among the ten largest shareholders of a sample firm.
Individual Shareholdings	Number of shares held by individual investors who are not related to the founding family as percentage of number of outstanding shares.
Corporation	A dummy variable that equals one when one or multiple publicly listed companies exist among the ten largest shareholders of a sample firm.
Corporate Shareholdings	Number of shares held by publicly listed companies as percentage of number of outstanding shares.
Government	A dummy variable that equals one when one or multiple government-affiliated entities (e.g., sovereign wealth fund and government agencies) exist among the ten largest shareholders of a sample firm.
Government Shareholdings	Number of shares held by government-affiliated entities as percentage of number of outstanding shares.
Employees	A dummy variable that equals one when a joint employee ownership group is among the ten largest shareholders of a sample firm.
Employee Shareholdings	Number of shares held by employee ownership groups as percentage of number of outstanding shares.
Management	A dummy variable that equals one when one or multiple senior executives exist among the ten largest shareholders of a sample firm.
Management Shareholding	Number of shares held by senior executives as percentage of number of outstanding shares.
Institution	A dummy variable that equals one when one or multiple institutional investors including mutual funds, pension funds, asset managers, banks and insurance companies, venture capital, etc. exist among the ten largest shareholders of a sample firm.
Institutional Shareholding	Number of shares held by institutional investors including mutual funds, pension funds, asset managers, banks and insurance companies, venture capital, etc. as percentage of number of outstanding shares.

Table II—*Continued*

Panel C: Financial Variables

Variable	Definition
Profitability	Gross profit margin.
Leverage	Ratio of total debt to total common equity.
Firm Age	Natural logarithm of number of years since incorporation.
Firm Size	Natural logarithm of total revenue.
Tobin's Q	A ratio of market value of a firm's assets to the replacement value of those assets.
Price Volatility	A measure of a stock's average annual price movement to a high and low from a mean price for each year. For example, a stock's price volatility of 20% indicates that the stock's annual high and low price has shown a historical variation of +20% to -20% from its annual average price.
Liquidity	Cash and equivalent as a percentage of total assets.

Table III
Ownership Variables: Summary Statistics

Summary statistics about the distribution of seven different material owner types in sample firms: founding family, other individuals, public corporations, government entities, employees, management, and institutions. The first two columns indicate the presence of a particular type of owner among the firm's *material owners* (defined as the ultimate owners behind the ten largest direct shareholders of a sample firm). The last two columns show the mean and standard deviation of (1) the aggregate equity stake held by owners of each type; (2) the number of different material owner types; and (3) the Hirschman–Herfindahl index (HHI) of ownership concentration, defined as the sum of the squared shareholding fractions of the ten largest shareholders in each firm. The sample comprises 26,481 firm-year observations from 3,083 firms during 2002–2019, spanning 62 countries and 30 industries.

	Presence among material owners		Material shareholdings (%)	
	Frequency	Percentage	Mean	S.D.
Family	10,436	39.41	7.59	13.78
Individual	3,996	15.09	0.63	1.46
Corporate	5,753	21.73	0.21	0.60
Government	11,312	42.72	1.27	1.99
Employees	2,636	8.92	0.35	1.69
Management	348	1.31	0.11	1.59
Institution	26,209	98.97	24.88	16.28
Top 10 total			35.04	16.71
Owner diversity			2.28	0.99
Ownership concentration			0.09	0.13

Table IV
Distribution of Shareholdings of Different Material Owner Types

Distribution of the equity stakes owned by seven different types of material owners in our sample firms: founding families, government, public corporations, individual investors, management, employees, and institutions, by year (Panel A), industry (Panel B) and region (Panel C). The shareholding percentage under each owner type represents the aggregate shareholdings of each type of corporate owner included among the firm's *material owners* (defined as the ultimate owners behind the ten largest direct shareholders of a sample firm). *Top 10 Total* is the aggregate equity stake held by the all of the firm's material owners, and reflects the degree of ownership concentration in our sample firms. Panel A focuses on the period between 2007 and 2019 given that observations over this period constitute the majority of our sample. The sample comprises 26,481 firm-year observations from 3,083 firms during 2002–2019, spanning 62 countries and 30 industries. The industrial distribution is based on Thomson Reuters Business Classification (TRBC) codes, and the regional and country distribution is based on the countries where the firms are headquartered.

Panel A: Shareholdings (%) of Different Material Owner Types by Year

Year	N	Top 10 Total	Family	Individual	Corporation	Government	Employees	Management	Institution
2007	1,048	29.74	2.35	0.13	0.00	0.59	0.30	0.09	26.27
2008	1,148	29.96	2.50	0.14	0.00	0.67	0.31	0.13	26.20
2009	1,310	31.39	4.64	0.35	0.22	1.11	0.37	0.15	24.54
2010	1,527	34.06	6.93	0.60	0.34	1.21	0.38	0.16	24.44
2011	2,081	37.55	9.66	0.89	0.38	1.34	0.36	0.08	24.83
2012	2,156	36.95	9.99	0.91	0.37	1.40	0.37	0.09	23.82
2013	2,155	36.86	9.70	0.84	0.28	1.53	0.36	0.11	24.04
2014	2,147	36.31	9.19	0.73	0.22	1.54	0.36	0.11	24.16
2015	2,119	36.88	9.03	0.79	0.22	1.50	0.35	0.09	24.90
2016	2,035	36.79	9.06	0.78	0.22	1.51	0.35	0.10	24.78
2017	1,998	36.69	9.03	0.78	0.22	1.53	0.36	0.10	24.68
2018	1,929	36.69	9.17	0.76	0.22	1.52	0.36	0.10	24.56
2019	1,704	37.29	9.55	0.75	0.18	1.55	0.35	0.11	24.79

Table IV—*Continued*

Panel B: Shareholdings (%) of Different Material Owner Types by Industrial Sector

Industry	N	Top 10 Total	Family	Individual	Corporation	Government	Employees	Management	Institution
Industrial Goods	2,365	34.80	6.06	0.57	0.23	1.06	0.26	0.01	26.60
Energy - Fossil Fuels	2,326	31.64	6.17	0.54	0.15	1.74	0.13	0.32	22.60
Mineral Resources	2,233	32.55	7.68	0.95	0.23	1.74	0.12	0.23	21.60
Industrial & Commercial Services	1,950	37.70	6.28	0.58	0.16	0.97	0.81	0.21	28.70
Technology Equipment	1,744	36.11	5.67	0.68	0.31	1.02	0.17	0.02	28.24
Cyclical Consumer Services	1,519	41.60	11.98	0.99	0.17	0.80	0.31	0.33	27.03
Food & Beverages	1,472	35.46	10.56	0.60	0.32	0.95	0.49	0.04	22.49
Transportation	1,466	31.86	7.23	0.54	0.23	1.74	0.57	0.00	21.56
Cyclical Consumer Products	1,388	39.26	8.19	0.77	0.18	0.76	0.48	0.01	28.87
Retailers	1,325	43.94	10.40	0.83	0.13	0.83	0.24	0.07	31.44
Chemicals	1,157	31.86	6.97	0.43	0.29	1.01	0.38	0.00	22.78
Telecommunications Services	1,094	26.02	6.35	0.56	0.17	3.00	0.52	0.07	15.36
Software & IT Services	1,002	38.88	6.97	0.49	0.14	0.72	0.25	0.15	30.17
Automobiles & Auto Parts	913	30.68	7.98	0.37	0.49	1.11	0.59	0.00	20.13
Pharmaceuticals & Medical Research	883	33.90	6.50	0.43	0.17	0.78	0.30	0.08	25.64
Healthcare Services & Equipment	800	38.75	3.00	0.43	0.11	0.59	0.11	0.01	34.50
Food & Drug Retailing	518	33.58	11.08	0.81	0.25	1.26	0.40	0.00	19.79
Utilities	512	27.79	6.15	0.59	0.10	3.74	0.89	0.07	16.25
Applied Resources	417	40.10	7.71	0.40	0.08	1.55	0.05	0.00	30.31
Industrial Conglomerates	412	28.75	6.83	0.34	0.30	1.21	0.51	0.00	19.56
Personal & Household Products & Services	372	35.54	9.19	0.42	0.08	0.31	0.07	0.01	25.46
Real Estate	329	38.02	16.42	0.96	0.23	1.77	0.44	0.35	17.86
Renewable Energy	95	33.63	12.05	0.93	0.49	1.83	0.00	0.00	18.34
Banking & Investment Services	75	34.11	1.77	0.49	0.00	2.07	0.00	0.00	29.79
Uranium	55	20.78	0.48	0.57	0.39	2.46	0.00	0.00	16.88
Investment Holding Companies	50	33.51	17.90	0.05	0.00	1.93	0.00	0.00	13.64
Insurance	9	48.37	32.63	1.42	0.00	0.00	0.00	0.00	14.32

Table IV—*Continued*

Panel C: Shareholdings (%) of Different Material Owner Types by Region									
Region	N	Top 10 Total	Family	Individual	Corporation	Government	Employees	Management	Institution
Asia Pacific	9,824	29.95	9.72	0.89	0.44	1.46	0.52	0.05	16.88
North America	7,335	40.46	2.81	0.27	0.03	0.19	0.10	0.05	37.01
Western Europe	6,325	36.82	8.36	0.60	0.07	1.68	0.51	0.19	25.42
Northern Europe	1,167	34.60	6.92	0.55	0.08	2.02	0.00	0.00	25.03
Middle East & Africa	835	33.93	9.74	0.81	0.21	3.91	0.26	0.58	18.43
Central & South America	618	41.81	19.90	0.58	0.27	1.55	0.04	0.05	19.44
Central & Eastern Europe	377	25..27	9.57	1.42	0.26	2.19	0.03	0.88	10.93

Table V
Financial Variables: Summary Statistics

Mean, median, and standard deviation of the financial and operating metrics used as control variables in our regressions. *Profitability* is measured by gross profit margin. *Leverage* is measured by the ratio of total debt to total common equity. *Firm Age* equals the natural logarithm of number of years since incorporation. *Firm Size* is the natural logarithm of total revenue. *Tobin's Q* is calculated as the ratio of market value of a firm's assets to the replacement value of those assets. *Price Volatility* is measured by a stock's average annual price movement to a high and low from a mean price for each year. For example, a stock's price volatility of 20% indicates that the stock's annual high and low price has shown a historical variation of +20% to -20% from its annual average price. *Liquidity* represents cash and equivalent as a percentage of total assets. The financial control variables are extracted from Thomason Reuters DataStream. The sample comprises 26,481 firm-year observations from 3,083 firms during 2002–2019, spanning 62 countries and 30 industries.

	Mean	Median	S.D.
Profitability	0.39	0.35	0.23
Leverage	0.86	0.53	1.47
Firm Age	3.56	3.58	0.85
Firm Size	22.17	22.17	1.53
Tobin's Q	2.11	1.47	2.35
Price Volatility	27.42	26.23	7.8
Liquidity	32.82	28.76	21.15

Table VI
Correlation Matrix

Correlation matrix for all variables used in this study. All variables are defined in Table II. The sample comprises 26,481 firm-year observations from 3,083 firms during 2002–2019, spanning 62 countries and 30 industries.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. ESG	1.00																		
2. Environment	0.87	1.00																	
3. Social	0.91	0.73	1.00																
4. Governance	0.65	0.38	0.41	1.00															
5. Ownership Concentration	-0.07	-0.03	-0.05	-0.11	1.00														
6. Owner Diversity	-0.06	0.02	-0.07	-0.11	0.21	1.00													
7. Family	-0.13	-0.10	-0.10	-0.14	0.49	0.16	1.00												
8. Individual	-0.20	-0.17	-0.19	-0.12	0.50	0.04	0.15	1.00											
9. Corporation	-0.02	0.07	-0.07	-0.05	0.35	0.02	-0.08	0.05	1.00										
10. Government	0.15	0.18	0.14	0.05	0.54	0.28	0.05	0.03	0.03	1.00									
11. Employees	0.05	0.08	0.04	0.00	0.37	0.00	-0.01	0.00	0.10	0.09	1.00								
12. Management	0.11	0.10	0.13	0.04	0.13	0.00	0.02	-0.03	0.01	0.01	-0.01	1.00							
13. Profitability	0.04	-0.05	0.08	0.03	-0.10	0.00	-0.02	-0.03	-0.14	-0.03	-0.07	0.03	1.00						
14. Leverage	0.00	0.00	0.01	-0.01	0.01	0.01	0.01	0.01	-0.01	0.01	0.00	0.00	0.00	1.00					
15. Firm Age	0.17	0.21	0.14	0.04	0.02	-0.13	-0.04	-0.06	0.12	-0.02	0.07	0.00	-0.13	0.00	1.00				
16. Firm Size	0.47	0.46	0.41	0.26	-0.08	-0.01	-0.13	-0.25	0.01	0.07	0.09	0.04	-0.18	0.01	0.18	1.00			
17. Tobin's Q	0.02	0.01	0.03	0.03	0.01	0.07	0.01	-0.01	0.01	0.02	-0.01	0.01	0.00	0.00	0.00	-0.02	1.00		
18. Price Volatility	-0.26	-0.22	-0.26	-0.13	0.05	0.05	0.08	0.13	0.00	-0.03	-0.07	-0.02	-0.14	0.01	-0.23	-0.32	0.03	1.00	
19. Liquidity	-0.07	-0.09	-0.05	-0.04	0.08	0.08	0.10	0.09	-0.01	0.02	-0.04	0.01	0.28	-0.01	-0.16	-0.25	0.04	0.12	1.00

Table VII
Material Owner Diversity, Ownership Concentration, and ESG Scores

Pooled OLS regression of ESG scores on material owner diversity and ownership concentration. The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. The key explanatory variables are *Material Owner Diversity* (the number of different owner types among the firm's *material owners* (defined as the ultimate owners behind the ten largest direct shareholders) and *Ownership Concentration* (the sum of the squared shareholdings of the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Material Owner Diversity	-1.757***	-1.581**	-1.626**	-2.011***
	(-3.169)	(-2.128)	(-2.493)	(-4.230)
Ownership Concentration	-8.023*	-0.157	-3.724	-22.926***
	(-1.958)	(-0.033)	(-0.930)	(-4.784)
Profitability	7.804**	7.871*	8.700***	5.489*
	(2.758)	(1.897)	(3.174)	(2.046)
Leverage	-0.004	-0.004	0.002	-0.011**
	(-1.171)	(-1.192)	(0.262)	(-2.464)
Firm Age	1.595***	2.665***	2.006***	-0.284
	(2.825)	(3.887)	(4.030)	(-0.379)
Firm Size	7.867***	10.015***	8.193***	5.105***
	(12.510)	(10.893)	(12.191)	(9.740)
Tobin's Q	0.001***	0.001**	0.001**	0.002***
	(3.027)	(2.184)	(2.265)	(3.963)
Price Volatility	-0.066	-0.054	-0.114	-0.066
	(-0.635)	(-0.337)	(-0.996)	(-1.206)
Liquidity	0.058***	0.076**	0.071***	0.023
	(2.886)	(2.640)	(2.781)	(1.039)
Constant	-147.841***	-212.376***	-157.325***	-61.011***
	(-8.459)	(-8.243)	(-8.732)	(-4.603)
Adjusted R-Squared	0.46	0.44	0.45	0.17
N	26,311	26,288	26,288	26,311

Table VIII
Material Owner Types and ESG Scores

Pooled OLS regressions of ESG scores on dummy variables for different types of material owners. The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. The key explanatory variables are a series of dummy variables indicating the presence of each owner type among the firm's *material owners* (defined as the ultimate owners behind the ten largest direct shareholders. The material owner types are: (1) *Family* (founding family); (2) *Individual* (private individuals who are not related to the founding family); (3) *Corporation* (publicly listed companies); (4) *Government* (government-affiliated entities); (5) *Employees (*employee ownership group); and (6) *Management* (senior executives). The dummy for institutional investors is omitted to avoid multicollinearity. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family	-4.604***	-4.373***	-4.926***	-4.533***
	(-5.415)	(-4.008)	(-5.018)	(-3.882)
Individual	-3.692***	-4.459***	-3.796***	-2.526**
	(-4.632)	(-4.330)	(-3.509)	(-2.577)
Corporation	-2.265	-0.757	-2.079	-4.475***
	(-1.648)	(-0.531)	(-1.269)	(-2.959)
Government	1.022	1.706*	1.444	-0.291
	(1.170)	(1.750)	(1.509)	(-0.269)
Employees	0.637	0.025	1.079	0.758
	(0.585)	(0.014)	(1.025)	(0.417)
Management	14.002***	19.268***	17.967***	6.910**
	(6.961)	(6.349)	(7.135)	(2.553)
Profitability	7.739**	7.661*	8.533***	5.712**
	(2.762)	(1.829)	(3.119)	(2.268)
Leverage	-0.004	-0.003	0.002	-0.012***
	(-0.944)	(-0.818)	(0.335)	(-2.801)
Firm Age	1.525**	2.545***	1.899***	-0.246
	(2.614)	(3.694)	(3.710)	(-0.315)
Firm Size	7.453***	9.492***	7.712***	4.895***
	(11.483)	(10.422)	(11.581)	(8.386)
Tobin's Q	0.001***	0.001**	0.001**	0.002***
	(3.257)	(2.313)	(2.476)	(4.021)
Price Volatility	-0.057	-0.049	-0.105	-0.055
	(-0.592)	(-0.327)	(-0.970)	(-1.037)
Liquidity	0.059***	0.076***	0.072***	0.023
	(3.154)	(3.096)	(3.006)	(0.972)
Constant	-140.904***	-201.789***	-148.263***	-60.730***
	(-7.758)	(-7.827)	(-8.113)	(-4.099)
Adjusted R-Squared	0.47	0.45	0.47	0.16
N	26,481	26,458	26,458	26,481

Table IX
Material Owner Shareholdings and ESG Scores

Pooled OLS regressions of ESG scores on the shareholdings of different types of *material owners* (the ultimate owners behind the ten largest direct shareholders). The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. The key explanatory variables are a series of continuous variables that aggregate by owner type the shares of the sample firm held by each of the firm's material owners, as a percentage of total shares outstanding. The owner types are: (1) *Family* (founding family); (2) *Individual* (private individuals who are not related to the founding family); (3) *Corporation* (publicly listed companies); (4) *Government* (government-affiliated entities); (5) *Employees* (employee ownership group); (6) *Management* (senior executives); and (7) *Institutions* (institutional investors). All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family Shareholdings	-0.157***	-0.117***	-0.172***	-0.184***
	(-5.150)	(-2.806)	(-4.459)	(-4.514)
Individual Shareholdings	-0.826***	-1.025***	-0.820***	-0.466
	(-3.520)	(-3.588)	(-2.887)	(-1.453)
Corporate Shareholdings	-1.149	-0.441	-1.253	-1.961***
	(-1.628)	(-0.566)	(-1.423)	(-2.827)
Government Shareholdings	0.316	0.630**	0.351*	-0.097
	(1.650)	(2.676)	(1.707)	(-0.329)
Employee Shareholdings	-0.110	-0.110	-0.064	-0.192
	(-0.455)	(-0.316)	(-0.236)	(-0.626)
Management Shareholdings	0.470***	0.675***	0.668***	0.077
	(2.968)	(2.802)	(3.583)	(0.352)
Institutional Shareholdings	-0.012	-0.075	-0.061	0.111***
	(-0.308)	(-1.360)	(-1.229)	(3.172)
Profitability	7.626**	7.574*	8.357***	5.676**
	(2.703)	(1.789)	(3.060)	(2.222)
Leverage	-0.003	-0.003	0.003	-0.011**
	(-0.743)	(-0.690)	(0.432)	(-2.191)
Firm Age	1.613***	2.649***	1.983***	-0.167
	(2.835)	(3.961)	(3.969)	(-0.216)
Firm Size	7.563***	9.481***	7.760***	5.239***
	(11.126)	(10.237)	(10.960)	(8.758)
Tobin's Q	0.001***	0.001**	0.001**	0.002***
	(3.240)	(2.274)	(2.632)	(3.914)
Price Volatility	-0.057	-0.050	-0.104	-0.060
	(-0.577)	(-0.322)	(-0.945)	(-1.095)
Liquidity	0.056***	0.071**	0.068***	0.025
	(2.995)	(2.682)	(2.844)	(1.087)
Constant	-144.390***	-200.362***	-148.703***	-73.619***
	(-7.408)	(-7.536)	(-7.263)	(-4.851)
Adjusted R-Squared	0.46	0.44	0.46	0.17
N	26,481	26,458	26,458	26,481

Table X
Material Owner Shareholdings and Itemized ESG Scores

Pooled OLS regressions of itemized ESG scores on the shareholdings of different types of *material owners* (the ultimate owners behind the ten largest direct shareholders). The itemized ESG scores include: (1) Resource Use Control; (2) Emissions Reduction; (3) Environment Innovation; (4) Workforce Development; (5) Human Rights; (6) Community Commitment; (7) Product Responsibility; (8) Management Practices; (9) Shareholder Equality; and (10) CSR Strategy. The definitions of each itemized ESG score are provided in Appendix A. As in Table IX, the key explanatory variables are a series of continuous variables that aggregate by owner type the shares of the sample firm held by each of the firm's material owners, as a percentage of total shares outstanding. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) Resource Use Control	(2) Emission Reduction	(3) Environment Innovation	(4) Workforce Development	(5) Human Rights	(6) Community Commitment	(7) Product Responsibility	(8) Management Practices	(9) Shareholder Equality	(10) CSR Strategy
Family Shareholdings	-0.136**	-0.128**	-0.050	-0.153***	-0.193***	-0.134**	-0.199***	-0.222***	-0.037	-0.206***
	(-2.676)	(-2.475)	(-1.114)	(-3.097)	(-4.666)	(-2.686)	(-4.512)	(-4.382)	(-0.712)	(-4.378)
Individual Shareholdings	-1.128***	-0.868***	-0.868***	-0.858**	-0.681**	-0.840*	-0.873**	-0.708*	0.479	-1.029***
	(-2.984)	(-3.032)	(-3.073)	(-2.716)	(-2.190)	(-1.961)	(-2.692)	(-1.831)	(1.673)	(-2.826)
Corporate Shareholdings	-1.591	0.146	-0.267	-0.272	-2.033**	-0.989	-1.057	-2.114**	-1.470**	-1.683
	(-1.425)	(0.157)	(-0.409)	(-0.297)	(-2.196)	(-0.971)	(-0.846)	(-2.498)	(-2.385)	(-1.510)
Government Shareholdings	0.588*	0.866***	0.180	0.563**	0.288	0.373	0.032	-0.196	-0.216	0.736**
	(1.915)	(3.131)	(0.553)	(2.206)	(1.227)	(1.060)	(0.108)	(-0.526)	(-0.664)	(2.380)
Employee Shareholdings	-0.283	-0.213	0.157	-0.156	-0.177	0.146	0.135	-0.428	0.287	0.167
	(-0.797)	(-0.704)	(0.373)	(-0.464)	(-0.634)	(0.496)	(0.429)	(-0.960)	(0.610)	(0.346)
Management Shareholdings	0.735**	0.778**	0.090	0.645**	0.834***	0.560	0.327	-0.038	-0.042	0.711***
	(2.400)	(2.573)	(0.421)	(2.564)	(3.900)	(1.454)	(1.303)	(-0.142)	(-0.157)	(3.121)
Institutional Shareholdings	-0.055	-0.059	-0.086**	-0.032	-0.117*	-0.055	-0.038	0.142***	0.142***	-0.084
	(-0.765)	(-0.878)	(-2.699)	(-0.506)	(-1.751)	(-1.120)	(-0.902)	(3.381)	(3.144)	(-1.096)
Profitability	11.922***	12.016**	-2.272	12.751***	5.363	1.003	9.641***	6.260*	0.448	11.122***
	(2.886)	(2.335)	(-0.607)	(4.294)	(1.670)	(0.208)	(3.219)	(1.955)	(0.146)	(2.852)
Leverage	-0.002	-0.001	-0.004	-0.004	0.005	0.001	0.008	-0.013**	-0.010	0.002
	(-0.528)	(-0.074)	(-0.995)	(-0.433)	(0.507)	(0.117)	(1.381)	(-2.338)	(-0.905)	(0.248)
Firm Age	3.175***	2.980***	2.386***	1.706**	2.845***	1.730***	1.752***	-0.649	0.087	1.516
	(4.041)	(3.451)	(3.805)	(2.300)	(4.061)	(3.153)	(3.101)	(-0.787)	(0.087)	(1.620)
Firm Size	10.933***	11.277***	5.640***	8.506***	8.108***	6.213***	7.589***	4.678***	3.191***	11.166***
	(10.395)	(9.994)	(5.884)	(8.418)	(11.647)	(8.107)	(9.387)	(7.926)	(4.609)	(12.147)
Tobin's Q	0.001***	0.001***	-0.000	0.001**	0.001	0.001	0.001***	0.002***	0.000	0.001
	(2.877)	(2.904)	(-1.659)	(2.474)	(1.554)	(1.648)	(3.014)	(4.831)	(0.566)	(1.611)
Price Volatility	-0.084	-0.082	0.011	-0.049	-0.117	-0.220	0.020	-0.119*	0.204**	-0.058
	(-0.614)	(-0.477)	(0.073)	(-0.380)	(-1.071)	(-1.604)	(0.220)	(-1.758)	(2.757)	(-0.471)
Liquidity	0.099***	0.097**	-0.002	0.052*	0.105***	0.016	0.048	0.008	0.026	0.102***
	(3.284)	(2.473)	(-0.051)	(1.740)	(2.880)	(0.613)	(1.672)	(0.268)	(0.784)	(2.948)
Constant	-230.224***	-	-130.488***	-154.288***	-	-114.579***	-121.523***	-54.313***	-31.598*	-
	(-8.072)	(-7.225)	(-4.831)	(-5.467)	(-10.308)	(-4.857)	(-5.286)	(-3.552)	(-1.950)	(-9.443)
Adjusted R-Squared	0.39	0.41	0.33	0.37	0.38	0.38	0.27	0.11	0.04	0.37
N	26,458	26,458	26,021	26,458	26,458	26,327	26,327	26,350	26,350	26,350

Table XI
Material Owner Types and ESG Scores: Controlling for Selection Bias

Second-stage results of Heckman (1979) sample selection models of ESG scores on dummy variables for different types of material owners. The first stage for each model, the estimation results of which are reported in the Appendix on Table A.VII, is a probit model of the probability of reporting ESG data for each score as a function of: (1) seven different types of ESG controversies recorded in the previous fiscal year (seven variables to which the exclusion restriction is applied); (2) the owner type dummies; and (3) the same control variables included in this table. The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. As in Table VIII, the key explanatory variables are a series of dummy variables indicating the presence of each owner type among the firm's *material owners* (defined as the ultimate owners behind the ten largest direct shareholders. The dummy for institutional investors is omitted to avoid multicollinearity. The table also reports the coefficients on the inverse Mills ratio derived from the first-stage probit regressions to control for selection bias. All specifications control for industry, country, and year fixed effects. T-statistics from robust standard errors clustered by industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family	-4.681***	-4.453***	-5.100***	-4.540***
	(-7.939)	(-13.988)	(-6.928)	(-5.575)
Individual	-3.722***	-4.490***	-3.818***	-2.549***
	(-5.044)	(-12.832)	(-4.771)	(-3.502)
Corporation	-2.152**	-0.672	-1.595	-4.498***
	(-2.357)	(-1.409)	(-1.430)	(-4.389)
Government	0.915*	1.638***	1.081*	-0.337
	(1.742)	(4.900)	(1.877)	(-0.374)
Employees	0.671	0.061	1.094	0.731
	(0.604)	(0.113)	(0.935)	(0.435)
Management	14.180***	19.577***	18.279***	6.774***
	(8.394)	(16.567)	(9.457)	(3.366)
Profitability	7.789***	7.775***	8.751***	5.696***
	(3.414)	(10.472)	(3.656)	(3.570)
Leverage	-0.004	-0.003	0.002	-0.012***
	(-1.311)	(-0.555)	(0.475)	(-3.646)
Firm Age	1.594***	2.613***	2.025***	-0.258
	(3.811)	(14.648)	(4.934)	(-0.455)
Firm Size	7.548***	9.562***	7.954***	4.885***
	(18.762)	(83.597)	(17.388)	(12.964)
Tobin's Q	0.001**	0.001***	0.001*	0.002***
	(2.534)	(3.982)	(1.948)	(3.437)
Price Volatility	-0.060	-0.048**	-0.120**	-0.053
	(-1.116)	(-2.177)	(-2.189)	(-0.916)
Liquidity	0.060***	0.077***	0.075***	0.023
	(3.329)	(10.446)	(3.269)	(1.178)
Constant	-143.899***	-204.115***	-156.055***	-60.409***
	(-13.130)	(-64.446)	(-13.164)	(-5.938)
Inverse Mills Ratio	5.522**	3.584**	16.464***	-0.581
	(2.118)	(2.554)	(16.015)	(-0.405)
N	26,207	26,207	26,207	26,207

Table XII
Material Owner Shareholdings and ESG Scores: Controlling for Selection Bias

Second-stage results of Heckman (1979) sample selection models of ESG scores on the shareholdings of seven different types of *material owners* (the ultimate owners behind the ten largest direct shareholders). The first stage for each model, the estimation results of which are reported in the Appendix on Table A.VIII, is a probit model of the probability of reporting ESG data for each score type as a function of: (1) seven different types of ESG controversies recorded in the previous fiscal year (seven variables to which the exclusion restriction is applied); (2) the continuous variables measuring the shareholdings of each material owner type; and (3) the same control variables included in this table. The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. As in Table IX, the key explanatory variables are a series of continuous variables that aggregate by owner type the shares of the sample firm held by each of the firm's material owners, as a percentage of total shares outstanding. The table also reports the coefficients on the inverse Mills ratio derived from the first-stage probit regressions to control for selection bias. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social (3)	(4) Governance
Family Shareholdings	-0.156***	-0.118***	-0.170***	-0.183***
	(-7.075)	(-9.452)	(-6.999)	(-5.572)
Individual Shareholdings	-0.807***	-1.012***	-0.752***	-0.468*
	(-3.536)	(-9.989)	(-3.389)	(-1.867)
Corporate Shareholdings	-1.081**	-0.395	-0.971	-1.969***
	(-2.207)	(-1.522)	(-1.608)	(-4.174)
Government Shareholdings	0.308*	0.618***	0.317	-0.094
	(1.780)	(6.894)	(1.573)	(-0.401)
Employee Shareholdings	-0.090	-0.090	-0.012	-0.187
	(-0.390)	(-0.929)	(-0.046)	(-0.600)
Management Shareholdings	0.471***	0.679***	0.672***	0.068
	(3.779)	(8.114)	(5.002)	(0.407)
Institutional Shareholdings	-0.009	-0.073***	-0.049**	0.112***
	(-0.506)	(-6.051)	(-2.425)	(4.325)
Profitability	7.672***	7.669***	8.580***	5.664***
	(3.425)	(10.257)	(3.623)	(3.444)
Leverage	-0.003	-0.003	0.003	-0.011***
	(-1.001)	(-0.509)	(0.608)	(-2.948)
Firm Age	1.678***	2.714***	2.132***	-0.181
	(3.998)	(15.108)	(5.245)	(-0.320)
Firm Size	7.655***	9.547***	8.036***	5.224***
	(18.293)	(80.949)	(16.923)	(13.430)
Tobin's Q	0.001**	0.001***	0.001**	0.002***
	(2.568)	(3.901)	(1.998)	(3.369)
Price Volatility	-0.061	-0.049**	-0.119**	-0.058
	(-1.098)	(-2.207)	(-2.142)	(-0.981)
Liquidity	0.057***	0.072***	0.071***	0.024
	(3.348)	(9.696)	(3.312)	(1.237)
Constant	-147.308***	-202.536***	-157.631***	-73.188***
	(-12.733)	(-60.835)	(-12.421)	(-7.059)
Inverse Mills Ratio	4.676	2.896**	16.620***	-0.759
	(1.451)	(2.075)	(15.312)	(-0.541)
N	26,198	26,198	26,198	26,198

Table XIII
Material Owner Shareholdings and ESG Scores: Controlling for Reverse Causality

Results of an eight-equation simultaneous system estimated using Three-Stage Least Squares (3SLS) to address the potential reverse causality between ESG performance and the shareholdings of seven different types of material owners, given the endogeneity of ownership. Columns 3 to 9 show the results from the first stage of a 3SLS method and indicate potential determinants of the shareholdings of seven different types of material owners. The independent variables in these regressions include, for each of the owner types, the industry-adjusted ESG score, the same control variables as before, and six different instrumental variables: (1) *Owner's Frequency in Industry* (the percentage of all the sample firms in an industry that have the same type of owner among their material owners); (2) *Owner's Contribution to Industry Revenue* (the percentage of revenues in the industry accounted for by other firms that have the same type of material owner); (3) *Owner's Industry Shareholdings* (the average shareholdings by the same type of material owner in the industry); (4) *Owner's Regional Shareholdings* (the average shareholdings by the same type of material owner in a region); (5) *Market Risk* (the estimated beta from a single-index market model in which a firm's monthly stock returns over the previous 30 months are regressed on the corresponding market index); and (6) *Idiosyncratic Risk* (the standard error of the predicted stock return over the 30-month estimation window). All other variables are defined in Table II. The second stage (the results of which are not reported) uses the estimated residuals from stage one to construct the optimal instrument—the disturbances variance-covariance matrix that account for the contemporaneous correlations between error terms across the equations). Column 2 shows the results of the third stage of the 3SLS estimation, which regresses the adjusted aggregate ESG scores on the predicted shareholdings of each type of material owner. Aggregate ESG scores are adjusted for industry by subtracting from them the average score for their industry and year to ensure that the instruments for the ownership measures are not correlated with the dependent variable. Column 1 shows the results of a single-stage OLS estimation with industry-adjusted ESG as the dependent variable, for comparison. All equations include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Pooled OLS	3rd Stage of 3SLS	1st Stage of 3SLS						
	(1) Industry-Adj. ESG	(2) Industry-Adj. ESG	(3) Family Shareholdings	(4) Individual Shareholdings	(5) Corporate Shareholdings	(6) Government Shareholdings	(7) Employee Shareholdings	(8) Management Shareholdings	(9) Institutional Shareholdings
Family Shareholdings	-0.155***	-0.186***							
	(-5.094)	(-9.300)							
Individual Shareholdings	-0.817***	-1.154***							
	(-3.561)	(-8.790)							
Corporate Shareholdings	-1.151	-3.641***							
	(-1.667)	(-16.797)							
Government Shareholdings	0.335*	3.066***							
	(1.717)	(12.423)							
Employee Shareholdings	-0.098	-0.137							
	(-0.408)	(-0.869)							
Management Shareholdings	0.465***	0.237							
	(2.987)	(1.118)							
Institutional Shareholdings	-0.010	-0.023							
	(-0.240)	(-0.695)							

Table XIII—*Continued*

	Pooled OLS	2nd Stage of 3SLS	1st Stage of 3SLS						
	(1) Industry-Adj. ESG	(2) Industry-Adj. ESG	(3) Family Shareholdings	(4) Individual Shareholdings	(5) Corporate Shareholdings	(6) Government Shareholdings	(7) Employee Shareholdings	(8) Management Shareholdings	(9) Institutional Shareholdings
Profitability	7.447**	7.126***	3.923***	-0.175***	0.073***	-1.122***	-0.096	0.328***	-6.863***
	(2.623)	(12.817)	(6.456)	(-2.674)	(2.784)	(-11.165)	(-1.412)	(4.343)	(-8.941)
Leverage	-0.003	-0.002	0.009**	0.001*	-0.000	0.000	-0.001	-0.000	0.002
	(-0.780)	(-0.511)	(2.533)	(1.929)	(-1.415)	(0.755)	(-1.237)	(-0.495)	(0.307)
Firm Age	1.650***	1.743***	0.908***	0.018	0.019***	-0.284***	-0.044***	0.008	-1.801***
	(2.919)	(13.096)	(6.753)	(1.206)	(3.166)	(-12.495)	(-2.884)	(0.451)	(-10.296)
Firm Size	7.515***	6.947***	3.880***	0.044	0.179***	-0.859***	-0.180***	0.061	-9.320***
	(11.058)	(55.507)	(8.784)	(0.964)	(10.628)	(-14.272)	(-3.900)	(1.199)	(-19.772)
Tobin's Q	0.001***	0.001***	0.000***	0.000*	0.000***	-0.000***	-0.000	-0.000**	-0.001***
	(3.276)	(5.922)	(3.188)	(1.901)	(6.952)	(-3.637)	(-1.492)	(-2.137)	(-4.839)
Price Volatility	-0.059	-0.060***	0.042**	0.012***	-0.001*	0.015***	0.007***	0.003	0.162***
	(-0.603)	(-3.577)	(2.548)	(6.829)	(-1.735)	(5.627)	(3.698)	(1.191)	(7.396)
Liquidity	0.058***	0.054***	0.046***	0.003***	0.001***	-0.005***	-0.005***	-0.000	-0.090***
	(3.091)	(9.637)	(8.939)	(6.130)	(6.354)	(-5.986)	(-8.103)	(-0.185)	(-13.501)
Constant	-177.296***	-165.045***	-95.440***	-2.471**	-4.829***	20.138***	3.808***	-1.560	239.250***
	(-9.205)	(-42.837)	(-9.243)	(-2.308)	(-12.184)	(14.320)	(3.507)	(-1.311)	(21.493)
Industry-Adjusted ESG			-0.538***	-0.028***	-0.023***	0.131***	0.029***	-0.003	0.945***
			(-9.515)	(-4.869)	(-10.786)	(17.345)	(4.916)	(-0.489)	(15.850)
Owner's freq in industry			-41.780***	11.724***	3.103***	1.161***	-0.368	15.944***	0.459***
			(-17.652)	(37.006)	(24.129)	(5.264)	(-0.545)	(7.623)	(5.757)
Owner's contribution to industry revenue			74.067***	-2.728***	-0.429***	0.314**	4.134***	-0.758	0.024
			(33.889)	(-13.174)	(-5.649)	(2.514)	(11.237)	(-1.346)	(0.436)
Owner's industry shareholdings			0.172***	-0.371***	-0.053***	0.007	0.973***	0.282	0.551***
			(3.851)	(-20.942)	(-10.670)	(1.068)	(17.443)	(1.512)	(10.560)
Owner's regional shareholdings			0.011	0.054***	0.212***	0.017**	0.519***	1.543***	-0.476***
			(0.264)	(3.031)	(32.484)	(2.025)	(6.182)	(11.891)	(-7.609)
Market Risk			-0.570***	-0.066***	0.022***	-0.033**	0.014	-0.024	0.542***
			(-4.227)	(-4.013)	(3.307)	(-2.061)	(0.772)	(-1.161)	(3.122)
Idiosyncratic Risk			-0.433	-0.169	-0.576***	-0.363	-1.139**	0.597	-23.255***
			(-0.100)	(-0.324)	(-2.747)	(-0.710)	(-1.978)	(0.903)	(-4.259)
N	26,481	26,364	26,481	26,481	26,481	26,481	26,481	26,481	26,481

Table XIV

Founder v. Descendants as Material Owners, Directors, or CEOs, and ESG Scores

Pooled OLS regressions of ESG scores on the dummy variables for nine different types of *material owners* (the ultimate owners behind the ten largest direct shareholders): (1) *Founder as Material owner or Director*; (2) *Founder-CEO*; (3) *Descendant as Material Owner or Director*; (4) *Descendant-CEO*; (5) *Individual*; (6) *Corporation*; (7) *Government*; (8) *Employees*, and (9) *Management*. . The dependent variables are the Eikon aggregate ESG score (column 1) and the scores for the constituent environment (column 2), social (column 3) and governance (column 4) dimensions. *Founder as Shareholder or Director* equals one when the founder of a sample firm is a material owner and/or a director but is not the CEO. *Founder-CEO* equals one when the founder serves as CEO. *Descendant as Shareholder or Director* equals one when a descendant of the founder is a material owner and/or a director but is not the CEO. *Descendant-CEO* equals one when the CEO is a descendant of the founder. The dummy for institutional investors is omitted to avoid multicollinearity. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Founder as Material Owner or Director	-14.136***	-18.252***	-14.562***	-9.882***
	(-9.627)	(-8.134)	(-10.040)	(-4.672)
Founder-CEO	9.350***	13.099***	9.222***	6.535**
	(5.957)	(6.245)	(5.148)	(2.543)
Descendant as Material Owner or Director	-14.834***	-18.034***	-14.889***	-12.255***
	(-9.892)	(-10.016)	(-9.279)	(-5.731)
Descendant-CEO	15.099***	19.652***	15.094***	11.365***
	(12.621)	(13.094)	(11.614)	(6.696)
Individual	-3.427***	-3.995***	-3.572***	-2.406**
	(-4.912)	(-4.415)	(-3.525)	(-2.528)
Corporation	-1.920	-0.427	-1.844	-4.035**
	(-1.587)	(-0.363)	(-1.282)	(-2.756)
Government	0.983	1.697*	1.397	-0.266
	(1.251)	(1.840)	(1.578)	(-0.245)
Employees	0.704	0.165	1.274	0.576
	(0.620)	(0.091)	(1.300)	(0.310)
Management	13.401***	18.892***	17.639***	6.107**
	(7.563)	(6.172)	(7.667)	(2.357)
Profitability	8.208***	8.334*	9.117***	5.733**
	(3.019)	(2.003)	(3.578)	(2.149)
Leverage	-0.006	-0.006	-0.000	-0.013***
	(-1.347)	(-1.329)	(-0.025)	(-3.305)
Firm Age	1.353**	2.262***	1.711***	-0.280
	(2.723)	(3.996)	(4.027)	(-0.384)
Firm Size	7.411***	9.408***	7.642***	4.945***
	(12.892)	(11.708)	(13.229)	(8.429)
Tobin's Q	0.001***	0.001*	0.001**	0.001***
	(2.943)	(1.771)	(2.165)	(4.083)
Price Volatility	-0.055	-0.042	-0.101	-0.064
	(-0.595)	(-0.289)	(-0.966)	(-1.198)
Liquidity	0.060***	0.076***	0.071***	0.027
	(3.241)	(2.825)	(3.069)	(1.107)
Constant	-139.647***	-199.499***	-146.060***	-61.975***
	(-8.602)	(-8.643)	(-9.160)	(-4.196)
Adjusted R-Squared	0.49	0.48	0.48	0.17
N	22,722	22,699	22,699	22,722

Appendix
List of ESG Controversy Categories and Topics

Category / Topic	Description: Number of controversies published in the media related to…
Resource use:	
Environmental impacts	… impacts of the company's operations on natural resources or local communities.
Community:	
Anti-Competition	... anti-competitive behaviour (e.g., anti-trust and monopoly), price-fixing or kickbacks.
Business ethics	... business ethics in general, political contributions or bribery and corruption.
Intellectual property	... patents and intellectual property infringements.
Critical countries	... activities in critical, undemocratic countries that do not respect fundamental human rights principles.
Public health	... public health or industrial accidents harming the health & safety of third parties (non-employees and non-customers).
Tax fraud	... tax fraud, parallel imports or money laundering.
Human rights:	
Child labour	... use of child labour issues.
Human rights	... human rights issues.
Product responsibility:	
Consumer	… consumer complaints or dissatisfaction directly linked to the company's products or services.
Customer health & safety	… customer health and safety.
Privacy	… employee or customer privacy and integrity.
Product access	… product access.
Responsible marketing	… the company's marketing practices, such as over marketing of unhealthy food to vulnerable consumers.
R&D	… responsible R&D.
Shareholders:	
Accounting	... aggressive or non-transparent accounting issues.
Insider dealings	... insider dealings and other share price manipulations.
Shareholder rights	.. shareholder rights infringements
Workforce:	
Diversity and opportunity	... workforce diversity and opportunity (e.g., wages, promotion, discrimination and harassment).
Employees health & safety	... workforce health and safety.
Wages working condition	... the company's relations with employees or wages or wage disputes.
Management:	
Management compensation	... high executive or board compensation.
Management departures	… a top executive's voluntary or forced departure (other than retirement)

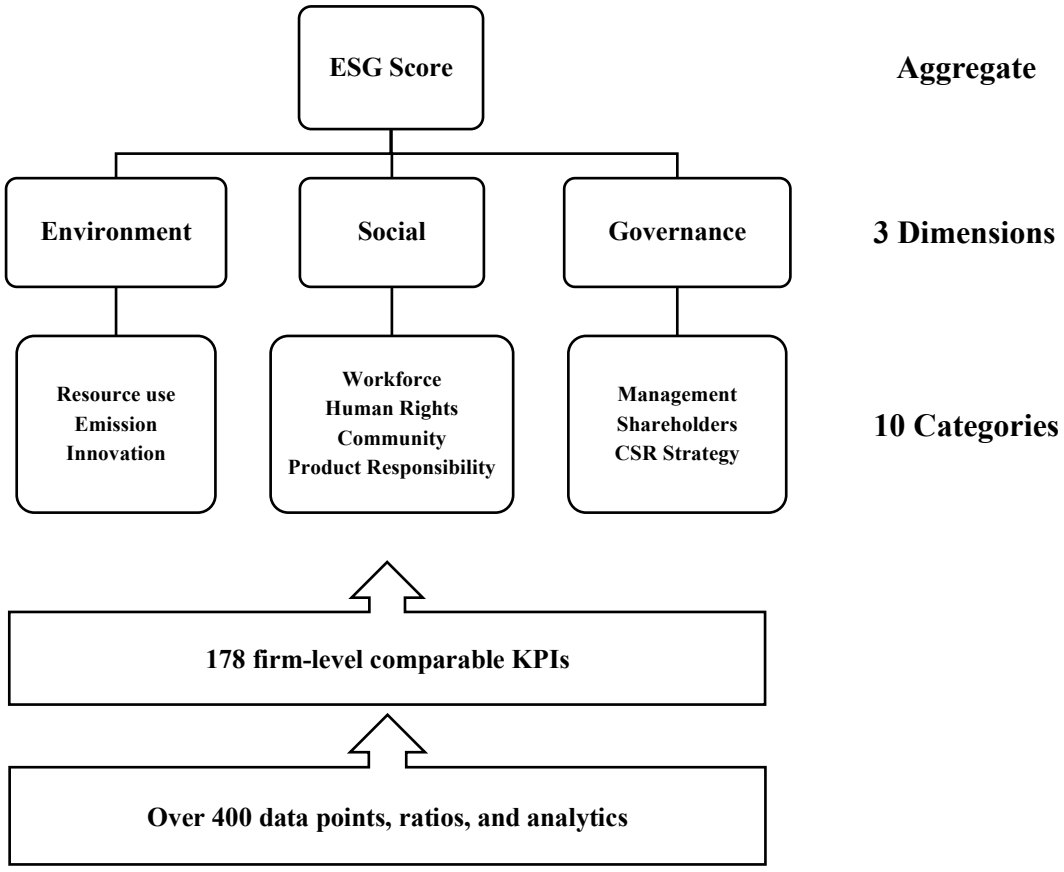

Figure 1. Structure of Eikon ESG Dataset

Internet Appendix

Table A.I
Material Owner Types and Bloomberg ESG Scores

This table repeats the pooled OLS regressions in Table VIII but uses the Bloomberg ESG scores as alternative dependent variables. The key explanatory variables are the dummy variables indicating the presence of each owner type among the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is due to the smaller coverage of the Bloomberg ESG data set relative to Eikon's. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family	-2.434***	-2.146***	-3.081***	-0.781
	(-3.198)	(-2.868)	(-2.959)	(-1.600)
Individual	-2.714***	-3.198***	-2.528***	-0.943**
	(-5.495)	(-4.949)	(-4.445)	(-2.478)
Corporation	0.069	-0.234	-0.297	0.058
	(0.089)	(-0.220)	(-0.303)	(0.132)
Government	0.707	0.984	0.444	0.294
	(1.091)	(1.529)	(0.525)	(0.738)
Employees	1.314*	1.360	1.252	0.939**
	(1.826)	(1.303)	(1.223)	(2.141)
Management	5.330***	5.028**	3.326	3.406***
	(3.500)	(2.503)	(1.303)	(3.218)
Profitability	5.529***	6.127***	6.196***	3.028***
	(3.726)	(3.881)	(3.653)	(3.546)
Leverage	-0.000	0.001	0.003	-0.003*
	(-0.147)	(0.216)	(0.686)	(-1.766)
Firm Age	1.470***	1.480***	1.156**	0.584**
	(4.370)	(4.350)	(2.762)	(2.372)
Firm Size	4.281***	4.647***	3.708***	2.224***
	(11.319)	(9.808)	(11.653)	(14.780)
Tobin's Q	0.000*	0.001**	0.001***	0.000**
	(1.727)	(2.526)	(3.325)	(2.117)
Price Volatility	-0.122***	-0.143**	-0.121**	-0.034
	(-2.897)	(-2.298)	(-2.669)	(-1.133)
Liquidity	0.039*	0.054*	0.015	0.025***
	(2.049)	(1.972)	(0.801)	(2.910)
Constant	-77.539***	-93.222***	-67.347***	-2.078
	(-7.691)	(-7.623)	(-7.381)	(-0.497)
Adjusted R-Squared	0.46	0.36	0.42	0.44
N	22,716	19,650	21,818	22,707

Table A.II
Material Owner Shareholdings and Bloomberg ESG Scores

This table repeats the pooled OLS regressions in Table IX but uses the Bloomberg ESG scores as alternative dependent variables. The key explanatory variables are the continuous variables that aggregate by owner type the shareholdings of the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is due to the smaller coverage of the Bloomberg ESG data set relative to Eikon's. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family Shareholdings	-0.081***	-0.088**	-0.093***	-0.029*
	(-3.028)	(-2.638)	(-2.810)	(-1.777)
Individual Shareholdings	-0.681***	-0.805***	-0.624***	-0.256**
	(-4.570)	(-4.343)	(-3.648)	(-2.321)
Corporate Shareholdings	-0.087	-0.326	-0.320	0.033
	(-0.227)	(-0.624)	(-0.672)	(0.141)
Government Shareholdings	0.362**	0.365*	0.358*	0.074
	(2.302)	(1.918)	(1.833)	(0.714)
Employee Shareholdings	0.041	-0.007	-0.038	0.068
	(0.314)	(-0.041)	(-0.209)	(0.593)
Management Shareholdings	0.178**	0.204**	0.100	0.075
	(2.727)	(2.194)	(0.866)	(1.198)
Institutional Shareholdings	-0.045	-0.066*	-0.033	-0.015
	(-1.549)	(-1.992)	(-1.330)	(-1.230)
Profitability	5.460***	5.974***	6.161***	2.964***
	(3.727)	(3.926)	(3.710)	(3.454)
Leverage	-0.000	0.002	0.003	-0.002
	(-0.009)	(0.295)	(0.778)	(-1.686)
Firm Age	1.521***	1.529***	1.215***	0.601**
	(4.628)	(4.223)	(2.980)	(2.406)
Firm Size	4.218***	4.524***	3.666***	2.216***
	(12.402)	(11.185)	(12.838)	(14.262)
Tobin's Q	0.000*	0.001**	0.001***	0.000*
	(1.793)	(2.374)	(3.181)	(1.930)
Price Volatility	-0.118**	-0.136**	-0.117**	-0.033
	(-2.636)	(-2.173)	(-2.405)	(-1.036)
Liquidity	0.035*	0.050*	0.010	0.024***
	(1.789)	(1.778)	(0.528)	(2.798)
Constant	-75.536***	-89.142***	-66.278***	-1.687
	(-9.005)	(-9.474)	(-8.547)	(-0.385)
Adjusted R-Squared	0.48	0.37	0.45	0.44
N	22,718	19,650	21,818	22,707

Table A.III
Material Owner Types and Sustainalytics ESG Scores

This table repeats the pooled OLS regressions in Table VIII but uses the Sustainalytics ESG scores as alternative dependent variables. The key explanatory variables are the dummy variables indicating the presence of each owner type among the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is due to the smaller coverage of the Sustainalytics data set relative to Eikon's. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family	-3.183	-1.211	-3.042	-4.223
	(-0.955)	(-0.368)	(-1.096)	(-1.381)
Individual	-4.919**	-4.841**	-6.626***	-2.693
	(-2.441)	(-2.320)	(-2.854)	(-1.276)
Corporation	-2.706	-0.309	-2.224	-3.224*
	(-1.281)	(-0.167)	(-1.020)	(-1.836)
Government	1.597	2.193	2.304	-1.836
	(0.897)	(1.239)	(1.281)	(-0.924)
Employees	2.627	3.091*	1.379	3.358
	(1.146)	(1.792)	(0.434)	(0.938)
Management	13.155	13.947	14.270	2.390
	(1.613)	(1.666)	(1.696)	(0.327)
Profitability	17.963**	19.670***	13.862**	6.385
	(2.784)	(2.822)	(2.236)	(0.949)
Leverage	-0.040	-0.032	-0.051	-0.029
	(-0.880)	(-0.772)	(-1.161)	(-0.546)
Firm Age	2.930**	3.186**	3.036*	1.304
	(2.145)	(2.654)	(1.939)	(0.960)
Firm Size	7.386***	7.323***	6.065***	4.009***
	(5.727)	(4.450)	(5.163)	(4.653)
Tobin's Q	-0.090	-0.129*	-0.039	-0.110
	(-1.348)	(-1.716)	(-0.562)	(-1.462)
Price Volatility	-0.157	-0.169	-0.067	-0.299*
	(-0.569)	(-0.569)	(-0.248)	(-1.853)
Liquidity	-0.010	-0.030	0.034	-0.048
	(-0.128)	(-0.385)	(0.498)	(-0.837)
Constant	-132.668***	-134.733***	-104.410***	-37.578**
	(-3.763)	(-3.004)	(-3.498)	(-2.222)
Adjusted R-Squared	0.35	0.28	0.31	0.37
N	5,326	5,326	5,326	5,326

Table A.IV
Material Owner Shareholdings and Sustainalytics ESG Scores

This table repeats the pooled OLS regressions in Table IX but uses the Sustainalytics ESG scores as alternative dependent variables. The key explanatory variables are the continuous variables that aggregate by owner type the shareholdings of the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is due to the smaller coverage of the Sustainalytics data set relative to Eikon's. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family Shareholdings	-0.251**	-0.181*	-0.220**	-0.291***
	(-2.662)	(-1.714)	(-2.423)	(-3.618)
Individual Shareholdings	-0.934*	-1.061**	-1.206*	-0.571
	(-1.757)	(-2.162)	(-1.857)	(-0.923)
Corporate Shareholdings	-2.208**	-0.929	-1.644	-1.998*
	(-2.122)	(-0.869)	(-1.435)	(-1.841)
Government Shareholdings	0.927*	0.976*	0.773	0.592
	(1.852)	(1.900)	(1.347)	(1.084)
Employee Shareholdings	-0.847**	-0.632**	-0.898**	-0.034
	(-2.301)	(-2.407)	(-2.192)	(-0.066)
Management Shareholdings	0.079	0.349	-0.003	-0.070
	(0.141)	(0.650)	(-0.005)	(-0.167)
Institutional Shareholdings	-0.161	-0.165	-0.150	-0.037
	(-1.351)	(-1.295)	(-1.428)	(-0.473)
Profitability	17.868***	19.246***	13.917**	6.528
	(2.814)	(2.794)	(2.339)	(0.919)
Leverage	-0.037	-0.029	-0.049	-0.026
	(-0.839)	(-0.705)	(-1.135)	(-0.499)
Firm Age	2.880**	3.132**	3.065**	1.183
	(2.283)	(2.688)	(2.131)	(0.952)
Firm Size	7.133***	7.026***	5.932***	3.829***
	(4.766)	(3.745)	(4.327)	(3.834)
Tobin's Q	-0.080	-0.118	-0.032	-0.098
	(-1.300)	(-1.707)	(-0.487)	(-1.451)
Price Volatility	-0.103	-0.122	-0.017	-0.266
	(-0.392)	(-0.433)	(-0.065)	(-1.637)
Liquidity	-0.024	-0.042	0.021	-0.054
	(-0.301)	(-0.541)	(0.304)	(-0.965)
Constant	-121.906***	-122.489**	-96.880**	-33.163
	(-2.963)	(-2.323)	(-2.719)	(-1.674)
Adjusted R-Squared	0.36	0.28	0.31	0.37
N	5,326	5,326	5,326	5,326

Table A.V
Material Owner Types and Asset4 ESG Scores

This table repeats the pooled OLS regressions in Table VIII but uses the Asset4 ESG scores extracted in July 2018 as alternative dependent variables to address the inconsistencies between current and historical ESG scores. The key explanatory variables are the dummy variables indicating the presence of each owner type among the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is mainly due to the shorter observation period relative to that of our main sample. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family	-6.160***	-5.218***	-6.204***	-4.426***
	(-5.022)	(-3.664)	(-4.493)	(-3.606)
Individual	-5.153***	-5.420***	-4.892***	-1.631*
	(-3.808)	(-3.672)	(-3.088)	(-1.886)
Corporation	-1.940	0.682	-0.938	-3.270***
	(-1.186)	(0.528)	(-0.444)	(-4.750)
Government	0.589	0.444	0.188	0.119
	(0.459)	(0.421)	(0.128)	(0.131)
Employees	-0.415	-1.720	-0.075	2.290
	(-0.230)	(-0.722)	(-0.047)	(1.155)
Management	17.464***	18.696***	18.588***	8.099***
	(6.022)	(4.719)	(5.774)	(3.224)
Profitability	13.810***	7.534	11.869**	5.507**
	(2.865)	(1.562)	(2.636)	(2.695)
Leverage	-0.004	0.002	-0.002	-0.002
	(-0.847)	(0.327)	(-0.350)	(-0.244)
Firm Age	2.022***	2.863***	2.275***	-0.272
	(2.889)	(3.795)	(2.929)	(-0.406)
Firm Size	9.843***	9.819***	9.639***	3.761***
	(11.047)	(11.108)	(8.944)	(8.707)
Tobin's Q	0.001**	0.000	0.001	0.001***
	(2.525)	(1.508)	(1.702)	(3.491)
Price Volatility	-0.275*	-0.153	-0.166	-0.070
	(-1.800)	(-0.957)	(-0.989)	(-1.169)
Liquidity	0.023	0.033	0.023	0.023
	(0.786)	(0.867)	(0.723)	(1.133)
Constant	-172.795***	-187.321***	-177.179***	-11.277
	(-6.441)	(-7.279)	(-5.642)	(-1.183)
Adjusted R-Squared	0.53	0.47	0.45	0.75
N	17,175	17,175	17,175	17,175

Table A.VI
Material Owner Shareholdings and Asset4 ESG Scores

This table repeats the pooled OLS regressions in Table IX but uses the Asset4 ESG scores extracted in July 2018 as alternative dependent variables to address the inconsistencies between current and historical ESG scores. The key explanatory variables are the continuous variables that aggregate by owner type the shareholdings of the firm's *material owners* (the ultimate owners behind the ten largest direct shareholders). All specifications include industry, country, and year fixed effects. The reduced sample size is mainly due to the shorter observation period relative to that of our main sample. T-statistics from robust standard errors clustered by country and industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
Family Shareholdings	-0.163***	-0.125***	-0.165***	-0.137***
	(-3.556)	(-2.797)	(-3.291)	(-3.295)
Individual Shareholdings	-0.826**	-0.956**	-0.796**	-0.074
	(-2.195)	(-2.572)	(-2.109)	(-0.253)
Corporate Shareholdings	-0.775	0.361	-0.372	-1.132***
	(-0.936)	(0.544)	(-0.340)	(-3.115)
Government Shareholdings	0.621*	0.565**	0.529	0.241
	(1.909)	(2.445)	(1.505)	(0.770)
Employee Shareholdings	0.003	-0.016	-0.059	0.342
	(0.008)	(-0.038)	(-0.153)	(0.959)
Management Shareholdings	0.557*	0.657**	0.729***	0.210
	(2.010)	(2.102)	(2.999)	(1.151)
Institutional Shareholdings	0.021	-0.031	-0.014	0.122***
	(0.387)	(-0.486)	(-0.258)	(3.314)
Profitability	13.803***	7.541	11.789**	5.398**
	(2.817)	(1.542)	(2.569)	(2.606)
Leverage	-0.003	0.002	-0.002	-0.000
	(-0.617)	(0.377)	(-0.241)	(-0.059)
Firm Age	2.200***	3.013***	2.430***	-0.139
	(3.300)	(4.231)	(3.279)	(-0.211)
Firm Size	10.061***	9.910***	9.786***	4.129***
	(10.465)	(11.133)	(8.233)	(9.120)
Tobin's Q	0.001**	0.000	0.001*	0.001***
	(2.428)	(1.464)	(1.785)	(3.194)
Price Volatility	-0.287*	-0.162	-0.176	-0.085
	(-1.777)	(-0.961)	(-1.005)	(-1.313)
Liquidity	0.020	0.030	0.019	0.025
	(0.659)	(0.735)	(0.559)	(1.217)
Constant	-180.074***	-189.794***	-181.530***	-24.677**
	(-6.055)	(-7.202)	(-5.112)	(-2.250)
Adjusted R-Squared	0.52	0.46	0.44	0.75
N	17,175	17,175	17,175	17,175

Table A.VII
First-Stage of Sample Selection Model: Probability of Reporting ESG Data as a function of Controversies and Material Owner Types

Probit models of the probability of reporting ESG data as a function of: (1) seven different types of ESG controversies recorded in the previous fiscal year; (2) the dummy variables for different types of material owners; and (3) the same control variables as before. These models serve as a first stage in Heckman (1979) sample selection models for which the second-stage estimation results are reported on Table XI. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
No. of Community Controversies Lagged	0.086	0.098**	0.015	0.137
	(1.051)	(2.334)	(0.250)	(1.563)
No. of Human Rights Controversies Lagged	0.960**	1.175**	0.498*	1.158**
	(2.020)	(2.495)	(1.938)	(2.208)
No. of Management Controversies Lagged	0.648*	0.691*	0.413	0.605
	(1.645)	(1.683)	(1.283)	(1.480)
No. of Product Responsibility Controversies Lagged	0.025	-0.020	-0.040	0.074
	(0.280)	(-0.401)	(-1.356)	(0.743)
No. of Resource Use Controversies Lagged	0.004	0.043	-0.013	-0.006
	(0.021)	(0.196)	(-0.108)	(-0.030)
No. of Shareholders Controversies Lagged	0.076	0.118	0.044	0.068
	(0.242)	(0.932)	(0.198)	(0.203)
No. of Workforce Controversies Lagged	0.611***	0.654***	0.259**	0.707***
	(2.929)	(6.454)	(2.259)	(3.516)
Family	-0.106	-0.117***	-0.096*	-0.111
	(-1.540)	(-2.969)	(-1.848)	(-1.581)
Individual	-0.085	-0.078*	-0.144***	-0.070
	(-1.417)	(-1.894)	(-3.303)	(-1.154)
Corporation	-0.228***	-0.151**	-0.269***	-0.191**
	(-2.751)	(-2.408)	(-3.640)	(-2.343)
Government	-0.158**	-0.150***	-0.064	-0.167**
	(-2.112)	(-3.639)	(-0.900)	(-2.247)
Employees	0.032	0.003	0.105	0.003
	(0.515)	(0.047)	(1.609)	(0.049)
Management	-0.028	-0.130	-0.111	-0.038
	(-0.132)	(-0.895)	(-0.617)	(-0.191)
Profitability	0.191	0.176*	0.245	0.156
	(0.969)	(1.905)	(1.587)	(0.816)
Leverage	0.001	0.000	0.002**	0.000
	(0.636)	(0.037)	(2.179)	(0.094)
Firm Age	0.083**	0.063***	0.086**	0.073*
	(2.066)	(2.967)	(2.447)	(1.818)
Firm Size	0.173***	0.148***	0.223***	0.148***
	(6.216)	(10.648)	(10.170)	(6.035)
Tobin's Q	0.000	0.000	-0.000	0.000
	(0.466)	(0.449)	(-0.040)	(1.315)
Price Volatility	-0.012***	-0.012***	-0.013***	-0.011***
	(-3.260)	(-4.819)	(-4.231)	(-2.732)
Liquidity	0.002	0.002**	0.003**	0.002
	(1.573)	(2.193)	(2.505)	(1.373)
Constant	-2.186***	-1.673***	-3.523***	-1.646**
	(-2.944)	(-4.550)	(-6.061)	(-2.359)
N	28,278	28,278	28,278	28,278

Table A.VIII
First-Stage of Sample Selection Model: Probability of Reporting ESG Data as a function of Controversies and Material Owner Shareholdings

Probit models of the probability of reporting ESG data as a function of: (1) seven different types of ESG controversies recorded in the previous fiscal year; (2) the continuous variables measuring the shareholdings of different material owner types; and (3) the same control variables as before. These models serve as a first stage in Heckman (1979) sample selection models for which the second-stage estimation results are reported on Table XII. All specifications include industry, country, and year fixed effects. T-statistics from robust standard errors clustered by industry are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1) ESG	(2) Environment	(3) Social	(4) Governance
No. of Community Controversies	0.096	0.137***	0.027	0.140
Lagged	(1.070)	(2.952)	(0.348)	(1.577)
No. of Human Rights	1.009**	1.193**	0.296	1.201**
Controversies Lagged	(2.007)	(2.529)	(0.875)	(2.223)
No. of Management	0.645	0.623	0.366	0.612
Controversies Lagged	(1.606)	(1.565)	(0.982)	(1.471)
No. of Product Responsibility	0.036	0.078	-0.034	0.078
Controversies Lagged	(0.376)	(0.987)	(-0.979)	(0.776)
No. of Resource Use	0.025	0.019	-0.026	0.013
Controversies Lagged	(0.137)	(0.086)	(-0.176)	(0.071)
No. of Shareholders	0.070	0.063	0.024	0.060
Controversies Lagged	(0.220)	(0.493)	(0.109)	(0.181)
No. of Workforce Controversies	0.635***	0.713***	0.276**	0.718***
Lagged	(2.927)	(6.639)	(2.203)	(3.593)
Family Shareholdings	0.000	0.000	0.002	0.000
	(0.047)	(0.027)	(0.886)	(0.052)
Individual Shareholdings	0.017	0.015	0.007	0.015
	(0.609)	(0.912)	(0.295)	(0.542)
Corporate Shareholdings	-0.092*	-0.075**	-0.122***	-0.075
	(-1.900)	(-2.083)	(-3.112)	(-1.543)
Government Shareholdings	-0.004	-0.005	0.008	-0.006
	(-0.187)	(-0.475)	(0.529)	(-0.283)
Employee Shareholdings	0.026**	0.023*	0.023	0.023*
	(2.196)	(1.786)	(1.535)	(1.892)
Management Shareholdings	0.000	-0.001	0.004	-0.001
	(0.009)	(-0.073)	(0.336)	(-0.044)
Institutional Shareholdings	0.003	0.004***	0.001	0.004
	(1.115)	(2.875)	(0.337)	(1.357)
Profitability	0.192	0.166*	0.225	0.163
	(0.987)	(1.771)	(1.459)	(0.858)
Leverage	0.001	0.000	0.002***	0.000
	(0.722)	(0.150)	(2.780)	(0.197)
Firm Age	0.084**	0.076***	0.094***	0.076*
	(2.113)	(3.537)	(2.687)	(1.925)
Firm Size	0.175***	0.155***	0.232***	0.154***
	(5.573)	(10.980)	(10.423)	(5.849)
Tobin's Q	0.000	0.000	-0.000	0.000
	(0.431)	(0.446)	(-0.516)	(1.199)
Price Volatility	-0.012***	-0.011***	-0.012***	-0.011***
	(-3.379)	(-4.412)	(-3.895)	(-2.914)
Liquidity	0.002	0.002*	0.003***	0.002
	(1.414)	(1.932)	(2.679)	(1.229)
Constant	-2.374***	-1.951***	-3.772***	-1.929**
	(-2.774)	(-5.158)	(-5.917)	(-2.480)
N	28,278	28,278	28,278	28,278