

Foundation Ownership and Sustainability

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ABSTRACT

Concerns about the sustainability of contemporary capitalism have inspired a search for organizational forms that are more concerned with solving environmental and social problems. We examine whether one such model – foundation ownership of business companies – is associated with better sustainability outcomes. We hypothesize that foundations are less profit-driven and more focused on environmental and social issues and expect that these objectives influence foundation-owned companies. Using data on listed foundation-owned companies over the period 2003-2020 matched with control groups by firm size and industry, we find that foundation-owned firms have higher environmental, social, and governance (ESG) performance, in particular along both the environmental and social dimensions. We validate our results across alternative ESG metrics, real sustainability outcomes (e.g., injury rates), and alternative estimation methods like difference-in-differences instrumental variable regressions, and firm fixed effects. Our evidence highlights the potential of purposeful ownership in promoting corporate sustainability.

Keywords: Corporate ownership; Environmental, Social, and Governance (ESG); Corporate social responsibility; Sustainability

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1. Introduction

Concerns about the environmental and social sustainability of contemporary capitalism have led to a search for organizational forms that are more receptive to environmental and social considerations (Edmans, 2020; Fink, 2020; Henderson, 2021; Mayer, 2021; British Academy, 2018, 2019; Polman & Winston, 2021; Serafeim, 2022). Foundation ownership has attracted attention in this debate because it combines a non-profit philanthropy institution with the ownership of business companies (Mayer, 2021; British Academy, 2018, 2019; Forbes, 2022)¹. While this ownership model is unusual in the US, it is relatively common in Scandinavia and Germany (Sanders & Thomsen, 2023). Several prominent global companies are foundation-owned, including Novo Nordisk (Denmark), Bosch (Germany), Rolex (Switzerland), Tata Sons (India), and Investor (Sweden). Patagonia, a US-based outdoor apparel company, recently adopted a similar structure announcing that "Earth is now our only shareholder." The focus on purpose rather than profits, as stated in their charters, makes enterprise foundations an interesting setting for exploring the impact of purposeful ownership on sustainability outcomes.

In this study, we examine the relation between foundation ownership and sustainability by using a dataset of publicly listed companies around the world that are controlled by foundations. We create a treatment group of foundation-owned companies and match them with control groups consisting of investor- and family-owned listed companies in the same industry and of comparable firm size². We compare the ESG performance of the treatment group with the control groups and find that foundation-owned companies perform better, as hypothesized, along both the environmental and the social dimensions — but not in terms of

¹ Strictly speaking, a foundation is a self-owning non-profit entity that does not have outside owners. It is established through the irrevocable donation of shares or other assets by its founder and is overseen by an independent board under the supervision of private courts or government regulators. Foundations that own a controlling share in a business company are defined as enterprise foundations regardless of their purpose (charity, business continuity, family support, etc.).

² We also constructed a propensity score matching (PSM) analysis using firm size, industry and additional parameters, which yields similar results.

governance. Our results are both statistically and economically significant. We conduct empirical identification tests that rely on the global financial crisis of 2008, which we treat as an exogenous shock to firms based on previous research in finance (e.g., Buchanan et al., 2018; Duchin et al., 2010; Lins et al., 2013; Lins et al., 2017). The 2008 shock provides a compelling test of firms' commitment to ESG, as those with limited financial resources tend to significantly reduce their investments (Almeida et al., 2011), such as ESG activities during the crisis. We show that foundation-owned companies reacted differently to this shock compared to the control group, as they retained their ESG engagement. We also find that our results are robust to multiple metrics of ESG, alternative definitions of foundation ownership as well as alternative estimation methods like difference-in-differences (DID), instrumental variable (IV) regressions and firm fixed effects.

Our study adds to the literature in several ways. We contribute to the growing literature in finance investigating the impact of ownership structures on ESG engagements. Previous studies mainly focused on families, institutional investors, and state ownership (e.g., Abeysekera & Fernando, 2020; Chen et al., 2020; Cox et al., 2004; Dyck et al., 2019; El Ghouli et al., 2016; Hsu et al., 2021). We add to this work by showing that purposeful non-profit shareholders, such as foundations, exhibit higher attentiveness towards stakeholder concerns and greater commitment to resolving environmental issues. Furthermore, we contribute to the ongoing discourse surrounding responsible capitalism (Mayer, 2021; Edmans, 2020; Henderson, 2021) by examining the role of environmental and social ownership objectives in encouraging ESG activities. Our contribution is to show that ownership purpose serves as a governance mechanism that promotes sustainability engagement within firms. Our paper also advances the existing literature on foundation ownership, which has primarily focused on financial performance, in the Nordic region and Germany (Thomsen, 1996; Hermann & Franke, 2002; Thomsen et al., 2018; Achleitner et al., 2020; Block et al., 2020), by examining

the impact of foundation ownership on sustainability outcomes using global data. Finally, we contribute to research on the importance of owner identity for stability in stakeholder relations and investment in social capital (Crespí-Cladera & Martín Oliver, 2015; Lagaras & Tsoutsoura, 2015; Amato et al., 2021) by showing that firms with more committed owners, such as enterprise foundations, have higher ESG performance during challenging economic conditions.

The rest of the paper is structured as follows: Section 2 presents our arguments on the impact of foundation ownership on sustainability performance, followed by the hypotheses. Section 3 outlines the methodology and data used in the study. In Section 4, we provide results and explore their robustness. Section 5 concludes.

2. Related literature and hypotheses

2.1 Enterprise Foundations and Sustainability

We define enterprise foundations as foundations (or similar legal entities like irrevocable trusts) that own one or more business companies. Foundations in turn are self-owning non-profit entities that have no residual claimants (meaning they do not have owners or members with both cash flow and control rights). They are created by the irrevocable donation of shares in a company or other assets to a foundation, which is governed by an independent, self-perpetuating board and is usually supervised by a government regulator.

While there is little theoretical work on enterprise foundations in corporate finance, we can draw on related theories of commercial non-profits like non-profit hospitals or universities which sell their services on market terms. Fama and Jensen (1983a) argue that non-profits operate at a disadvantage compared to closely held corporations because the control rights of their directors are not combined with residual claims on profits, resulting in a lack of profit incentive. Moreover, non-profit firms operate at a disadvantage compared to open corporations with diversified ownership because they cannot attract outside equity and diversify risk (Fama

& Jensen 1983b). Consequently, according to agency theory, commercial non-profits will not survive in the market without sufficient donations from donors who value their activities (Fama & Jensen 1983a; 1983b).

In the case of enterprise foundations, a founder – who cares about the activities of a company, for example in relation to sustainability – can donate shares in the company to a foundation to achieve this goal. As a result, foundation-owned companies may benefit from lower costs of capital if enterprise foundations are willing to accept lower returns in exchange for greater social impact. This allows foundation-owned companies to invest in initiatives that may not have immediate financial benefits but instead prioritize the long-term interests of the company including sustainability engagements.

Hansmann (1980) proposed a distinct but complementary theory based on information asymmetries, which was later formalized by Glaeser and Shleifer (2001). Hansmann (1980) explains the survival of non-profit organizations by a contract-failure argument. If potential buyers are uncertain about the quality of a product or service, they may hesitate to purchase from a for-profit seller who could potentially lower the quality to increase profits in ways that the buyers cannot detect. To address this issue, a seller may choose to organize as a non-profit enterprise, which diminishes these incentives to exploit customers and improves quality. As a result, the seller can sell more, gain market share, and improve its likelihood of survival. The non-profit enterprise form can be viewed as a credible commitment (Schelling, 1960) to refrain from exploiting buyers for maximum profit. The argument can be expanded to include the safeguarding of other economic relationships where a company possesses important information advantages, such as relationships with suppliers, financial institutions, inter-firm alliances, and employees. In particular, stakeholders such as customers, employees, and suppliers may prioritize sustainability but may struggle to ascertain a seller's commitment to it. All else being equal, a non-profit foundation may be less likely to renege on implicit or explicit

contracts with third parties because it values the extra profits less. According to the same reasoning, non-profit foundation ownership provides companies with weaker incentives to breach such contracts to increase profits.

A third theoretical perspective from sociology suggests that foundations are governed by an “institutional logic” (Friedland & Alford 1991; Thornton & Ocasio, 2008) that differs from that of conventional (for-profit) business owners. Foundations are legally accountable to a purpose stated in their charters that deviates from profit maximization (Hopt et al., 2009). In most cases, they have charitable objectives (Hopt et al., 2009) that reflect a charitable logic (Stewart & Dodworth, 2021) or a social welfare logic (Litrico & Besharov, 2019). Presumably, the social welfare logic of the foundation will to some extent spill over to the foundation-owned company in the same way that the business activities of commercial non-profits like hospitals are influenced by social or charitable objectives (Kraatz & Block, 2008).

2.2 Hypotheses

Based on these arguments, we hypothesize that enterprise foundations influence companies to engage more in sustainability and ESG. Børsting and Thomsen (2017) show that foundation-owned companies have better reputations and better labour relations (longer employment duration, higher pay and a more skilled labour force) than comparable companies with conventional ownership structures. With enterprise foundations being guided by a socially useful purpose, in alignment with the British Academy's (2018) principles on purposeful businesses, their values closely correspond with the advancement of the sustainability agenda. This alignment provides a strong motivation for companies owned by foundations to engage in ESG activities. The foundation charter, a key mechanism in the governance of enterprise foundations, commits them to their purposes, including social and/or environmental objectives. Its legal nature ensures a credible commitment to the stated purpose, setting it apart from

corporate purpose statements that have been criticized as lacking substance (Davies, 2022). Some foundation charters directly stipulate a responsibility toward stakeholders (Thomsen, 2017), such as the well-being of employees and environmental protection. Based on the long-term, philanthropic nature of foundation ownership, along with the governance guided by purpose rather than solely by profit maximization, we argue that foundation-owned companies are institutionally more geared to accommodate ESG considerations into their operations. We propose:

Hypothesis 1. Foundation-owned companies have higher ESG performance than non-foundation-owned firms.

Foundations may have different formal purposes depending on the will of their founders. We exploit such variation in foundation purpose to examine variations in environmental and social sustainability as a function of foundation purpose. Charitable foundations use their income to support charitable projects, while family foundations may also pursue family objectives including family legacy, stability, and reputation, in addition to social and business goals. We would expect companies owned by foundations which support a founding family (Hopt et al., 2009)³ to behave more like family businesses, i.e., to put more emphasis on profits and less on sustainability. In contrast, we expect charitable foundations to put more emphasis on social objectives, as their primary aim is often to achieve social, environmental, and/or scientific goals. This leads us to propose the following hypothesis:

Hypothesis 2. Firms owned by charitable foundations have higher ESG performance than firms owned by family foundations.

³ Most of these foundations also have philanthropic goals. Many also have an additional formal obligation to ensure the survival of the company they own (Hopt et al., 2009, p. 72). Combinations of different purposes are very common.

3. Material and Methods

3.1 The Sample

We collected data on listed companies from around the world in which enterprise foundations have controlling influence as a starting point for this study. In the absence of systematic register information, we collected this data from various sources, including Orbis, a Bureau van Dijk database, corporate annual reports, proxy statements, media reports and regulatory documents⁴. To determine whether the ultimate owner is a foundation, we manually cross-verify the data by checking the company's annual reports and other publicly available sources. We designate a company as foundation-owned if the largest shareholder is a foundation that satisfies a 10% minimum threshold for foundation control of the voting rights consistent with the threshold suggested by La Porta et al. (1999)⁵. For firms with more than one foundation shareholder, we use the sum of the shareholder's voting rights for the *foundation ownership* classification. We measure foundation ownership by a dummy ("*Foundation*") that equals one when the firm is a foundation-owned firm and zero when it is a non-foundation-owned firm. In robustness tests, we use an alternative measure of foundation ownership that is continuous and based on foundation-held, free-floating shares that we obtain from S&P Capital IQ. We obtain consistent results using this alternative measure of foundation ownership. During our data collection process, we identified 239 listed foundation-owned firms. We remove foundations with government-linked activities because business concerns may be secondary. Since the fundamentals of financial (SIC codes from 6000 to 6999) and utility (SIC codes from 4900 to 4999) companies are subject to heavy regulatory supervision, and therefore do not necessarily reflect the underlying economic characteristics, these firms are also excluded. Our baseline

⁴ See further information about the underlying hand-collection in Table A12.

⁵ In robustness tests, we use an alternative definition of foundation ownership under which the foundation is the largest vote holder and possesses at least 20% of the votes.

sample comprises 69 foundation-owned firms, 56 of which are controlled (in part) by a charitable foundation, while 13 are controlled (in part) by a family foundation. We compare listed foundation-owned companies with matched control groups of listed family firms and investor-owned firms. We follow a one-to-one matching approach (the nearest neighbour) by *industry* (two-digit SIC code) and *firm size* (as measured by total assets).

3.2 ESG Data

To achieve the objective of this study and investigate the impact of foundation ownership on sustainability the following dependent variables are used: the overall ESG score as well as the more granular ESG dimension scores (“Environmental”, “Social” and “Governance”). In additional robustness tests, we introduce alternative measures, including real sustainability outcomes, such as *injury rates* and *CO2 Emissions Intensity*.

We use sustainability data from five different ESG databases: Refinitiv (previously Asset4), MSCI's ESG Intangible Value Assessment (IVA), Bloomberg, S&P Global, and Trucost, all of which are widely recognized and used by sustainable finance professionals (Berg et al., 2022). We focus, however, primarily on Refinitiv because it is the dataset with the broadest coverage of public firms that has been widely used in the empirical finance and governance literature (e.g., Rees & Rodionova, 2015; Chatterji et al., 2016; Dyck et al., 2019; Drempetic et al., 2020). It builds on information from annual reports, reputable media outlets, sustainability reports, as well as non-profit organizations (NGOs) and has a long time series for environment, social, and governance factors. The ESG score provided by Refinitiv is the aggregated value of the individual environmental, social, and governance factors, which measures the company's ESG performance relative to other firms in the same industry around the world each year. The ESG score falls between 0 (lowest rank) and 100 (highest rank). Our Refinitiv sample ranges from the fiscal year 2003 to the fiscal year 2020. As alternatives to Refinitiv ESG, we draw on

MSCI's ESG Intangible Value Assessment (IVA) database, Bloomberg and S&P Global (including Trucost), to verify the robustness of our results to the source of ESG data. The MSCI ESG IVA Ratings evaluate a company's ability to manage social and environmental risks and opportunities ranging from 0 (most negative) to 10 (most positive)⁶. Using IVA ratings helps alleviate concerns related to ESG data rewriting — particularly prevalent in Refinitiv (Berg et al., 2022) — as MSCI does not backfill its IVA dataset (Welch & Yoon, 2022)⁷. Finally, we use Trucost data to assess the environmental impacts of companies and their operations. Trucost evaluates the environmental costs linked to the company's activities, providing insights into potential environmental risks and opportunities associated with its operations. Financial data has been obtained from Bloomberg and Refinitiv (Datastream). Our starting (Refinitiv) sample consists of an unbalanced panel of 1879 firm-year observations pertaining to 212 public firms (69 foundation-owned firms and 143 non-foundation-owned firms) from 28 countries.

3.3 Control variables

We control for the *size* of the firm since larger firms arguably have more resources for sustainability activities (Graves & Waddock, 1994; Flammer, 2018). Since firms in better financial shape could make larger sustainability investments, we control for profitability measured by *return on assets* (ROA), an accounting-based performance measure, computed by the ratio of operating income before depreciation and amortization to total assets. We also use *Tobin's Q*, a market-based performance indicator as a control variable. We control for *leverage* because more levered firms are likely to disclose more ESG information to mitigate agency costs. Additionally, we control for liquidity (*cash holdings*) which may affect ESG activities. These control variables are consistent with prior ESG literature (e.g., Flammer, 2018; Flammer

⁶ We multiply the MSCI ratings by 10 to make them comparable with the other ESG ratings.

⁷ Our results remain highly robust to such potential inconsistencies.

& Ioannou, 2021). To account for variations across country, industry, and year we use fixed effects.

3.4 Empirical models

Our baseline model is a cross-sectional OLS with industry, country and year fixed effects consistent with the prior literature on corporate ownership and ESG (e.g., Abeysekera & Fernando, 2020; El Ghouli et al., 2016; Rees & Rodionova, 2015). We estimate the following regression:

$$(1) ESG_{i,t} = \beta_0 + \beta_1 Foundation + \gamma'X_t + I(Industry) + I(Year) + I(Country) + \varepsilon_i,$$

where *ESG*, our dependent variable, is one of the ESG scores, *Foundation*, our independent variable, is a dummy variable which is equal to 1 if the controlling owner is a foundation and 0 otherwise, followed by a vector of control variables and the error term ε . The standard errors are clustered by firm. We seek to establish causality through matching, difference-in-difference estimation, instrumental variable regressions and controlling for firm fixed effects.

4. Results

4.1 Summary Statistics

Table 1 presents three panels of descriptive information for the baseline sample of firms analyzed in our study. Panel A shows summary statistics such as means, medians, standard deviations, and maximum and minimum values for the main variables of interest in the sample. Panel B presents the results of the difference of means tests conducted between foundation-owned and non-foundation-owned firms. Panel C shows the correlation matrix for the key variables used in the analysis. Foundation-owned firms have significantly higher median ESG performance ratings (58) than family-owned firms (47) and investor-owned firms (49). They use less financial *leverage* but are more profitable in terms of *ROA*. Foundation ownership has a significant positive association with *ESG* performance (as well as with the *social* and

environmental dimensional scores). The correlation coefficient is highest on the *social* dimension (0.26). In addition to the correlations, we computed variance inflation factors (VIF). The results indicate that multi-collinearity is unlikely to be an issue among the explanatory variables. The average VIF is 1.15 and the maximum is 1.25 (*Tobin's Q*) well below a conservative threshold of 2.5. *Firm size* is positively and significantly associated with all ESG scores consistent with Drempetic et al. (2020), which can be attributed to improved reporting activities among larger firms. This underscores the importance of comparing foundation-owned firms with non-foundation-owned firms that are of similar *firm size*. The difference of mean tests (Panel B) show that the differences in *ESG performance* are statistically significant on the aggregate level as well as the individual *environmental* and *social* dimensions. However, we do not find significant differences in the dimension of *governance* between the owner groups, which may be attributable to the unconventional nature of foundation ownership.

In Tables A2, A3 and A4 we report our sample distribution by country, year and industry (partitioned according to SIC divisions). Manufacturing firms constitute the largest industry group accounting for 66.5% of the firms. Through our matching process, we ensure that the data is evenly distributed across industry groups. Table A4 shows that the sample firms are widely distributed across Europe, North America and Asia. 18% of our firm-year observations come from Scandinavia, where *foundation ownership* is common and social governance is strong⁸.

Insert Table 1 about here

4.2 Multivariate Analysis

⁸ We account for differences in the institutional environment by including country-fixed effects, thereby comparing firms located in the same country.

We conduct a multivariate analysis in Table 2, where foundation-owned companies are compared to family-owned firms⁹. In Columns (1) to (4) we control for year, country, and industry fixed effects. In Columns (5) to (8) we add firm-level financial controls.

 Insert Table 2 about here

As predicted, in Column (1), the estimated coefficient on *foundation* ownership is positive and significant at a 5% level. In terms of economic significance, foundation-owned firms perform on average 14.4 percentage points better in terms of *ESG*, which is equivalent to 28.7% of the sample average. Adding firm-level controls changes little although the magnitude of the coefficients is somewhat smaller. Turning to the control variables, consistent with previous studies (e.g., Graves & Waddock, 1994; Rees & Rodinova, 2015) we find a positive *firm size* and *ROA* effect and a negative, statistically significant effect of *cash holdings*. We find insignificant effects of *leverage* and *Tobin's Q*.

Next, we examine the three primary components, namely the underlying environmental, social, and governance dimensions, of *ESG*. We find positive effects of foundation ownership on the *environmental* and *social* dimensions. On the *social* dimension, in Model (3), the magnitude of the foundation ownership coefficient is 17 percentage points and significant at the 1% level, suggesting an economically meaningful effect of 33.6% of the sample mean. In the dimension of *governance*, we find a positive, but statistically insignificant estimate which may be related to the unconventional ownership structure. In unreported analyses, we decompose the Refinitiv *ESG* score further into ten more granular measures including three environmental (E) measures (resource use, emission reduction, and environmental innovation), four social (S) measures

⁹ We start to compare foundation-owned firms with family firms because foundation-owned firms have many features in common with family businesses. A notable distinction for foundation ownership is reduced incentives and an irrevocable commitment to the company (Thomsen et al., 2018).

(workforce, human rights, community, and product responsibility), and three governance (G) measures (management, shareholders, and CSR strategy). We find that the strong ESG performance of foundation-owned companies is primarily a result of above-average performance in four subareas: emission reduction, workforce, human rights as well as product responsibility. In the context of climate change mitigation, focusing on "emission reduction" is crucial, while ensuring respect for "human rights," promoting a healthy "workforce," and upholding "product responsibility" suggest a focus on social issues.

4.3 Propensity Score Matching

Next, we aim to validate our primary inferences by repeating our analysis on a propensity score-matched sample. We use PSM to construct a sample including all companies that are foundation-owned and a matched set of firms without foundation ownership¹⁰. In the first stage, we estimate a probit model to estimate the propensity score for a firm with foundation ownership (i.e., the predicted probability that a foundation is the ultimate owner). The control group is identified based on *industry membership*¹¹, *firm size*, *ROA*, *cash holdings* and *leverage* which have been previously identified to predict blockholder ownership (e.g., Demsetz & Lehn, 1985)¹². The following probit model is used to estimate the propensity score for a company with foundation ownership:

$$(2) \text{Foundation}_{i,t} = a_1 + b_1 \text{Firm Size}_{i,t} + b_2 \text{ROA}_{i,t} + b_3 \text{Cash Holdings}_{i,t} + b_4 \text{Leverage}_{i,t} + I(\text{Industry}) + I(\text{Year}) + \varepsilon_i$$

¹⁰ Appendix Table A12 provides further information on the PSM control group.

¹¹ Industry membership is defined at the level of SIC divisions. SIC divisions are the following: agriculture (SIC 00-09, not represented in our sample); mining (SIC 10-14); construction (SIC 15-19); manufacturing (SIC 20-39); utilities (SIC 40-49); wholesale trade (SIC 50-51); retail trade (SIC 52-59); finance, insurance, and real estate (SIC 60-69, restricted from our sample); services (SIC 70-89); and other industries (SIC 99, not represented in our sample).

¹² We use a calliper of 0.05 and allow for replacement consistent with Roberts and Whited (2012).

Table 3 presents the results of the PSM analysis from estimating the probit model (specification 1) and from re-estimating equation (1) using the propensity score matched sample (Columns (2) to (9)). The probit results show that the coefficients of *firm size*, *leverage* and *cash holdings* are negative and statistically significant, indicating that smaller firms with less cash and lower *leverage* are more likely to be foundation-owned. Table A5 and Figure 1 indicate that the covariates are largely balanced between treatment and control firms and that the two estimated densities have most of their respective masses in regions in which they overlap each other; suggesting that the overlap and balancing conditions are satisfied. The results reported in Columns (2) to (5) are consistent with our earlier finding that foundation-owned firms exhibit significantly higher *ESG* performance.

 Insert Table 3 and
 Figure 1 about here

The foundation ownership coefficient is significantly positive at the 1% level, which implies that foundation-owned companies are more engaged in social and environmental issues. Foundation owners on average perform 9 points better in terms of aggregate *ESG* performance as well as 15 points higher scores on *Environmental (E)* and 11 points on *Social (S)* than firms without foundation ownership. Overall, the signs and magnitude of estimated coefficients on the control variables are quantitatively and qualitatively unchanged.

Table A6 shows the regression results when the control group consists of investor-owned firms. The foundation ownership coefficient is insignificantly positive on the aggregated as well as on the individual dimensions (except a negatively significant estimate on the *Governance* dimension). However, after accounting for endogeneity concerns, we find that foundation-owned firms have a significantly higher social and environmental performance relative to investor-owned firms (see Tables A10 and A11 below).

4.4 Quantitative outcome measures of Sustainability

Recent research has questioned the employment of *ESG* indicators as a measurement of corporate sustainability because of the substantial disagreement in ratings among the providers (e.g., Chatterji et al., 2016; Christensen et al., 2021; Berg et al., 2022). To address the potential inconsistency of ESG measurement, we examine real sustainability metrics which are arguably less vulnerable to greenwashing¹³.

Insert Table 4 about here

Table 4 presents results for alternative, quantitative outcome measures: *Employee Satisfaction*, *Injury Rates*, *CO2 Emission Intensity*, *Environmental Damage (Direct)*, and *Environmental Damage (Direct and Indirect)*¹⁴. Consistent with our previous findings, *job satisfaction* is found to be significantly higher in foundation-owned companies. In Column (1), the coefficient estimate is 4.86, meaning that on average, and after controlling for observable firm characteristics, employees of foundation-owned firms are 4.86% more satisfied. Column (2) reveals that foundation-owned companies demonstrate lower injury rates among their employees. In Column (3), the results indicate that companies with foundation ownership exhibit reduced emissions intensity compared to non-foundation-owned firms. In Columns (4) and (5), foundation-owned firms demonstrate a lower environmental damage cost, both directly and indirectly, suggesting that they contribute less to environmental harm based on Trucost's estimate of environmental impact. The *Environmental Damage* cost refers to the total estimated

¹³ However, due to limited data availability on these quantitative sustainability measures, our tests suffer from lower statistical power.

¹⁴ We use real sustainability metrics from Refinitiv and Trucost, focusing on the social and environmental dimensions, respectively. Our selection of these metrics is driven by interrelated considerations. First, we focus on quantitative measures of ESG that hold relevance across a broad array of firms. Second, we exclusively include measurable numerical outputs rather than relying on binary indicators. To assess the social dimension, we use Refinitiv's quantitative variables, specifically *Employee Satisfaction* and *Injury Rate*. For the environmental dimension, we source Trucost's data on *CO2 Emission Intensity*, *Environmental Damage (Direct)*, and *Environmental Damage (Direct and Indirect)*.

environmental externality created by the firm as a percentage of revenue. Taken together, the positive impact of foundation ownership on real sustainability outcomes is both statistically and economically significant¹⁵.

4.5 MSCI ESG Intangible Value Assessment: Material ESG

We also examine how well foundation-owned companies manage ESG issues most material to their business and their ability to address risks and leverage ESG opportunities. Reducing the dimensionality to material ESG factors could potentially reduce the noise in the estimation (Khan et al., 2016). To this end, we use MSCI ESG Intangible Value Assessment Ratings, which map environmental, social, and governance risks and opportunities to each "Global Industry Classification Standard" (GICS) sub-industry, thereby capturing the material firm ESG performance. For the MSCI sample, companies are evaluated both relative to their domestic and international competitors. Hence, they are not affected by cross-country differences in e.g., jurisdiction and ESG regulation (Ferrell et al., 2016)¹⁶. In Table 5, the coefficient estimates for foundation ownership are statistically significant (p-value <0.05), and economically meaningful (ranging from about 3 to 5 percentage points). A positive coefficient estimate means that foundation-owned companies can better focus their sustainability efforts on material ESG factors relative to non-foundation-owned firms. Specifically, foundation ownership is positively associated with the E and G scores on MSCI, while the S score is found to be insignificant¹⁷.

Insert Table 5 about here

¹⁵ Notably, we cannot rule out the presence of greenwashing in our setting. To mitigate concerns about greenwashing, we cross-validate our results with multiple sources of sustainability data.

¹⁶ For this reason, we do not include country fixed-effects in these regressions, however, a country-level covariate (Regulatory Quality) from the World Bank's World Governance Indicators.

¹⁷ This may be due to the low correlation between MSCI's social score and employee-related outcomes documented by Welch and Yoon (2022).

4.6 Charitable Foundations versus Family Foundations

As we see from Table 6, firms controlled by a *charitable foundation* put greater weight on environmental and social considerations. This could be because social goals are more powerful in guiding firm behavior in charitable foundations, while family foundations may be attentive to family interests in strategic decisions manifesting in comparatively less pronounced attention to social goals. These findings suggest that the negative relation between family influence and ESG performance, as observed by Rees and Rodinova (2015) and Abeysekera and Fernando (2020), persists even in cases where the family no longer owns the company.

Insert Table 6 about
here

4.7 On the Endogeneity of Foundation Ownership and ESG

Studying the relationship between foundation ownership and ESG gives rise to an endogeneity problem since foundation ownership is a choice variable and is not likely to be random. Possible biases on the effect of ownership on ESG can stem from reverse causality, omitted variables and self-selection (Harjoto & Jo, 2011). One concern is that the strong *ESG* showing of foundation-owned companies is due to omitted variables that happen to be correlated with *foundation ownership*, rather than due to *foundation ownership* itself. Specifically, there is the possibility that some unobservable (omitted) factor affects *ESG* and foundation ownership at the same time. If this were the case, the omitted factor would positively bias the relationship between *foundation ownership* and *ESG*. To address the concern of unobserved heterogeneity, we include firm fixed effects, which reduce the influence of time-invariant, unobserved characteristics that may vary across firms (Table A15). Endogeneity can also arise when founders of companies with strong ESG activities choose foundation ownership as a means to

align their ownership structure with their mission¹⁸. This self-selection introduces a potential reverse causality bias, a specific form of endogeneity bias. We acknowledge that establishing causality in the relation between foundation ownership and ESG is difficult due to the inherent stability of foundation ownership, which limits the use of temporal changes in ownership to estimate causal effects. To mitigate concerns related to time-varying omitted variables and potential reverse causality, we employ Difference-in-Differences (DID) models, Instrumental Variables (IV) models, and selection models as identification strategies.

Evidence from the Financial Crisis

Motivated by the finance literature (e.g., Buchanan et al., 2018; Duchin et al., 2010; Lins et al., 2013; Lins et al., 2017), we use unexpected changes in the economic environment surrounding the global financial crisis of 2008 to set up a quasi-difference-in-difference approach. The financial crisis is an exogenous and unanticipated shock that disrupts the equilibrium, while ownership remains fixed at least in the short-term (Lins et al., 2013). By doing so, we can directly observe how different ownership types adjust their ESG engagements¹⁹. We use a coarsened exact matching approach to create samples of firms without foundation control, which are quasi-randomly assigned ownership and are indistinguishable from foundation-owned firms based on pre-crisis observable characteristics. We estimate the following difference-in-difference specification:

$$(3) ESG_{i,t} = \beta_0 + \beta_1 Foundation_{i,t} + \beta_2 Post_{i,t} + \beta_3 Post_{i,t} \times Foundation_{i,t} + \mathbf{X}_{i,t} \\ + I(\text{Industry}) + I(\text{Year}) + I(\text{Country}) + \epsilon_i$$

¹⁸ It should be noted that the majority of enterprise foundations were formed decades ago before our sample period for reasons unrelated to sustainability issues, which tend to be more recent.

¹⁹ We recognize, however, that we do not have exogenous variation in ownership types, which limits the inferences we can draw during normal times.

where *ESG* is our outcome variable, *Foundation* is a dummy variable for foundation-owned firms, *Post* is a dummy variable set to one in the post-crisis period (2009-2012)²⁰ and **X** is a vector of control variables²¹. We include time, industry and country fixed effects and cluster standard errors at the firm level²². To reduce any impact of firm size and industry membership (FF12), we follow Iacus, King, and Porro (2012) and apply coarsened exact matching to match foundation-owned companies with comparable non-foundation-owned firms and do our analysis based on the matched sample²³. The matching is based on averaged pre-crisis values of our covariates to avoid any spurious correlation between these variables and *ESG* during the crisis. Coarsened exact matching is applied by creating strata on cut-off points of matching parameters, industry membership and firm size²⁴. To ensure the satisfaction of the common support assumption, strata without treated and control observations are dropped from the sample.

The 2008 global financial crisis had profound effects on ESG because firms with more limited financial resources tend to significantly reduce their investments (Almeida et al., 2011), such as in ESG activities, which are more likely to be cancelled or postponed. However, foundation-owned companies are not subject to the same shareholder pressure to maximize short-term profits, which may allow them to avoid significant budget cuts to social and environmental initiatives. We suggest that the effect of the financial crisis on ESG activities is moderated by the firm's ownership type, i.e., whether it is foundation-owned or not.

²⁰ Although different countries were affected by the financial crisis in different periods and with varying intensity, we define 2008 as the crisis year consistent with Lins et al. (2017), when the financial crisis was at its peak.

²¹ Guided by the economics literature on the global financial crisis (e.g., Mian et al., 2013), we set up the DID as a cross-sectional specification. We obtain similar results when we instead include firm and year-fixed effects.

²² In models (1) to (4), Table 7, we ran the regression without year fixed-effects and financial controls, but with dummies for the post-crisis period.

²³ Our results are robust to alternative matching strategies including entropy balancing weights or propensity score matching.

²⁴ We use the default binning algorithm for continuous matching variables, whereas we use two bins for our binary variables. This is necessary for binary variables because otherwise, the matching algorithm will try to split the binary variable into more bins.

Insert Figure 2 about here

To be valid, our identification strategy needs to ensure that the parallel trend assumption is satisfied and that the crisis was not anticipated. Figure 2 lends support to the parallel trend assumption. The central tenet of this assumption is that the financial crisis effects on sustainability engagements are not driven by other factors than ownership. In the pre-crisis period, the lines appear to be approximately parallel in agreement with the parallel trend assumption. Granger causality tests indicate that there is no effect in anticipation of the treatment. We estimate the regression model of *ESG* performance during the crisis as a function of firm ownership type. Our variable of interest is foundation ownership, in particular, the interaction term *Foundation* \times *Post*, which captures the differential impact of foundation ownership on *ESG* activities during the crisis. As shown in Table 7, the coefficient on *Foundation* \times *Post* is economically and statistically significant, indicating that foundation-owned companies maintained their *ESG* activities compared to the control group. In terms of economic significance, *foundation ownership* is associated with an increase in *environmental* (*social*) activities of 7.7 (8.3) basis points. In 2009, the first year in the post-crisis period, the standard deviation (mean) of *environmental* activities is 30 (40), suggesting that the effect is not only statistically significant but also economically meaningful, it increases by more than 25 percent of a standard deviation (19 percent of the mean)²⁵.

Insert Table 7 about here

Overall, the results in Table 7 suggest that foundation-owned companies sustained their *ESG* performance when the economy suffers an unexpected shock. This suggests that stakeholder

²⁵ Note that we have largely consistent findings when we exclude countries with mandatory *ESG* disclosure requirements during our sample period outlined by Christensen et al. (2021). More specifically, out of our sample, Greece and Malaysia (2007), China and Sweden (2008), Denmark and Austria (2009), Netherlands (2010), and India (2012) enacted mandatory *ESG* disclosures (year of adoption in brackets). However, because of substantial sample size restrictions, we chose not to report these findings to preserve space.

relations are nurtured by foundations even when the probability of financial distress is raised, which is likely explained by their commitment to implicit agreements (Mayer, 2021; Glaeser & Shleifer, 2001).

4.8 Financial Performance

We also investigate whether foundation-owned firms, who strive for social goals via commercial activities have a lower firm performance based on their reduced incentive efficiency. The descriptive analysis in Table A13 reveals that foundation-owned firms perform as least as well as non-foundation-owned firms based on accounting and market-based measures of financial performance. The implication seems to be that foundation-owned firms are capable of effectively balancing the social and financial goals in their activities, thereby creating a potential synergy between these objectives, as argued by Porter and Kramer (2011).

4.9 Environmental and Social Foundation Objectives and Sustainability

To explain our main result, we examine social and environmental foundation purposes as one of the potential channels that contribute to the differential effect of foundation ownership on *ESG*. The foundation charter, which outlines the foundation's purpose and governance rules, assumes an important role in committing foundation-owned companies to their purposes, including social and environmental goals. To gain a better understanding of the significance of the charter's expressed purpose for sustainability-related outcomes we differentiate between those foundations that aim to achieve social and/or environmental goals. We gather additional information by analyzing foundation websites, charters, and funding priorities. Foundations are categorized as having an *Environmental Purpose* or/and *Social Purpose* when their charters explicitly state these objectives or when they prioritize funding towards them. Examples that clarify our definitions are provided in Table A16. In addition, we assess the proportion of grants allocated to initiatives that serve environmental and/or social purposes.

Having an environmental foundation purpose can enhance the company's emphasis on environmental concerns, such as the reduction of carbon emissions, thereby leading to improved environmental performance. For example, the Bosch Foundation explicitly includes the protection of nature as one of its charitable objectives in its foundation charter, demonstrating a firm commitment to addressing environmental issues. Similarly, foundations with a *Social Purpose* are expected to have greater engagement in social issues within the companies they own. For instance, the Lauritzen Foundation, as the owner of the shipping company DFDS, strives to support vulnerable children and young people, which is indicative of a *social purpose*. Our definition of *Social Purpose* specifically focuses on immediate societal needs and challenges related to social welfare, such as poverty alleviation, education, healthcare, or social justice²⁶²⁷.

 Insert Table 8 about here

 In Table 8, we analyze the role of *Environmental* and/or *Social* foundation objectives in promoting ESG activities. In Models (1) to (5) we document that firms owned by foundations with *environmental* and/or *social* purposes exhibit higher ESG performance. Interestingly, we observe a notably larger coefficient estimate on the *Social and Environmental Purpose* variable (Model 5), suggesting that firms owned by foundations with both these purposes demonstrate higher levels of ESG engagement. In unreported results, we also observe a positive relation between the percentage of philanthropic activity allocated towards environmental or social causes and the company's social and environmental engagement. Finally, we test whether the foundation's statement of purpose is borne out by its funding towards these objectives. Our

²⁶ We construct a separate category for foundations with *Scientific* foundation purposes, which focus primarily on research and the advancement of knowledge. Our analysis reveals no significant relation between *Scientific* foundation purpose and a firm's social or environmental performance.

²⁷ Some foundations, such as the Tata Trusts, have both environmental and social purposes, as they are committed to advancing social initiatives while also addressing climate change-related issues.

findings, reported in Table A17, indicate that foundations with explicit social and environmental purposes bear out greater funding towards these specific goals, thereby providing empirical support that they actively pursue their stated objectives. Taken together, these results emphasize the important role played by environmental and social foundation purposes in driving ESG activities.

4.10 Robustness of Model Specifications

To strengthen identification and verify the robustness of our main findings, we conducted several additional analyses (variants of the specifications used in Tables 2 and 3). We employed the instrument variable approach, which is commonly used to mitigate endogeneity concerns, such as omitted variable bias (Larcker & Rusticus, 2010). The instruments are survey-based measures derived from the World Value Survey (WVS), which is based on a representative sample of at least 1000 individuals drawn from each country. We use the perception of trust (based on question a165) as an instrument for foundation ownership²⁸. We construct the mean response at the year-country level using data from previous years in which the survey was not undertaken. Countries that demonstrate higher levels of trust and effective corruption control, such as Denmark and Sweden, tend to have a higher prevalence of foundation ownership (Sanders & Thomsen, 2023), making this instrument relevant. At the same time, we assume, like Bennedsen et al. (2019), that the survey responses remain unaffected by the ownership decisions made by the companies in our sample since participants are randomly chosen from the entire population. As a result, the survey respondents have little to no connections with the firms in our sample, making this instrument exogenous. For every year, we construct a dummy (*High Trust*) equal to one if a country has above-median levels of trust within a particular year.

²⁸ More specifically, Question 165a of the WVS concerns the trust attitude toward others in the respondents' life; respondents are asked the extent of their agreement (1=Cannot be trusted, 2= depends or don't know, 3=Can be trusted).

Our second instrument is the average response at the country level (*WVS Trust*). In general, our instruments need to satisfy two conditions to be valid. First, they need to be relevant predictors of *foundation ownership* (our endogenous variable). Second, our instruments should only indirectly relate to our outcome variable (*ESG*) through their effect on the endogenous variable. In the first-stage regression (Table 9, Model (1)) we use our instruments (*High Trust*, *WVS Trust*) along with the exogenous variables to explain the presence of foundation control. The results confirm that our instruments are positively related to *foundation ownership*. Foundation-owned firms are more important in countries with high levels of trust, as predicted. Second-stage Hansen’s J-tests are not rejected, confirming the validity of our exclusion restriction. The regression results in Columns (2) to (5) reinforce our earlier findings; suggesting that *foundation ownership* is associated with better *ESG performance*.

 Insert Table 9 about here

We also used alternative ESG metrics from S&P Global to further test the robustness of our results to variations in the ESG rating method. S&P Global provides a combined ESG evaluation score ranging from 0 (lowest rank) to 100 (highest rank). Unlike other rating agencies, S&P Global does not only focus on public information, rather it completes the rating with questionnaires and supplements the survey data with an analysis of events and issues that surfaced in the media and online channels. The verification and evaluation of the questionnaires can potentially enhance data quality beyond relying solely on public information (Drempetic et al., 2020). S&P Global relies on, for instance, the Global Reporting Initiative (GRI) and the Climate Disclosure Project for the sourcing of the data, which both comprise highly trusted sources. Considering Table A7, in Column (1), we investigate the impact of foundation ownership on S&P’s ESG score and find a strong and significant positive relation.

To explore the impact of foundation ownership on ESG disclosure, we used Bloomberg's ESG disclosure scores that range from 0 (no disclosure) to 100 (full disclosure). These scores are based on information distributed through various channels, such as sustainability reports, annual reports, and public discourse including the Carbon Disclosure Project. As indicated in Models 2 to 5 of Table A7, we obtain similar results using these alternatives sustainability disclosure metrics, albeit the magnitude of the coefficients declines moderately. This suggests that the association between ESG and foundation ownership is unlikely to be driven by the peculiarity of the Refinitiv ESG data.

Furthermore, we note that a significant proportion of the firms controlled by foundations are located in Scandinavia and Germany. To check whether this affects our results we re-estimate our regressions without firms from these regions (Table A8). The results again confirm our earlier findings.

In addition, we use an alternative econometric method (generalized least squares) to test the robustness of the results consistent with prior literature on corporate ownership (e.g., Le & O'Brien, 2010). Overall, as presented in Table A9, the results from these specifications are quantitatively and qualitatively similar to our prior findings.

Moreover, we examine how our results change when we include a minimum threshold of 20% of the votes, which is a more restrictive definition of foundation ownership. We find that our results are also qualitatively unchanged (Table A14).

We also divided our sample based on *firm size*, using the logarithm of total assets (untabulated). We consistently observed a positive and significant relationship between foundation ownership and *ESG performance*, both for small firms and those above the average firm size.

We replaced the binary variable *Foundation ownership*, with the continuous variable *Foundation_held*, which identifies the number of shares held by charitable foundations.

Because *Foundation_held* is a continuous variable with temporal variation, we use the OLS fixed effects estimator including firm and year fixed effects. One advantage of this estimator is that it yields consistent estimates even if there are time-invariant firm characteristics, which could bias the estimated coefficients on our *Foundation* variable. Our results, as shown in Table A15, are robust to the inclusion of firm fixed effects.

We also addressed the potential bias in our sample induced by self-selection by employing Heckman's (1979) two-stage procedure. If the absence of CSR or sustainability reports indicates limited or no engagement in ESG activities by firms, there is a possibility of an upward bias in our estimates. To satisfy the exclusion restriction necessary for identification in Heckman's model, we include the presence of a regulatory requirement for ESG disclosure as an instrument in the probit model. The rationale behind this instrument is that ESG disclosure mandates influence a company's decision to report on ESG information, while not directly affecting its ESG performance (Christensen et al., 2021)²⁹. ESG disclosure mandates are regulatory requirements that firms must adhere to, irrespective of their actual levels of *ESG performance*. To understand the strength of the exclusion restriction, we analyze the correlation between the inverse Mills ratio (IMR) and our independent variable (*Foundation*). The correlation (*Foundation*, *IMR*) of 0.03 we observe is significantly lower than the reference value used by Certo et al. (2016), suggesting the validity of the exclusion restriction. The first-stage results reported in Table A18 show that foundation ownership is not significantly associated with the likelihood of reporting ESG data. As suggested by Certo et al. (2016), the insignificance of the independent variable in the first stage suggests the absence of sample selection bias.). The second stage pooled OLS estimations (Models (2) to (5)) yield results

²⁹ Christensen et al. (2022) findings highlight the divergence between ESG disclosure and performance.

similar in size and statistical significance to the single-stage estimates presented in Tables 2 and 3.

Finally, to further alleviate causality concerns we employed the Paris Agreement as a quasi-exogenous shock that tightened future carbon emissions, altering the incentives of companies to reduce their pollution levels, consistent with Ginglinger and Moreau (2023) and ran a difference-in-difference analysis. We studied the evolution of the E measure *Emission Reduction* as well as *ESG* around this event for foundation-owned firms and non-foundation-owned firms. The Paris Agreement, which established a global framework to mitigate global warming, has significantly raised awareness about climate change issues. Our findings, reported in Table A19, suggest that foundation ownership has a differential and positive impact both on *Emission Reduction* and *ESG* in the period following 2015 (i.e., after the Paris Agreement). These results suggest that the Paris Agreement drove a more pronounced change in behaviour and emissions for foundation-owned firms compared to other ownership types.

Collectively, our results are robust across various ESG metrics, alternative definitions of foundation ownership, and alternative estimation methods, including difference-in-differences, instrumental variable regressions, and firm fixed effects.

5. Summary and Conclusion

Several prominent firms around the world are controlled by foundations, especially in Europe. This paper provides new evidence on how foundation-owned companies perform on social and environmental dimensions, using a dataset of publicly listed firms from around the world. Our results suggest that foundation-owned firms, on average, exhibit better social and environmental performance relative to non-foundation-owned firms. Our findings also show that firms owned by charitable foundations exhibit better ESG performance than those owned by family foundations. Using the 2008 financial crisis as a setting for a difference-in-difference

design, we find that firms owned by foundations sustained their social and environmental activities in times of crisis. This shows that the sustainability engagements by foundation-owned companies weather a negative shock and supports a causal interpretation of our baseline findings. Taken as a whole, our evidence implies that non-profit shareholders are more attentive to stakeholder interests and committed to addressing environmental issues.

Our study makes several contributions to the literature. We extend the existing research on corporate ownership and ESG by demonstrating that non-profit foundations' purposeful ownership is linked to better ESG performance, going beyond the existing research that mainly focuses on families, institutional investors, and state ownership (e.g., Abeysekera & Fernando, 2020; Chen et al., 2020; Dyck et al., 2019; El Ghouli et al., 2016; Cox et al., 2004; Hsu et al., 2021). In focusing on foundation ownership and sustainability, we respond to recent calls from DesJardine et al. (2022) and Villalonga (2018) for empirical work on the influence of non-profit ownership on stakeholder welfare. Our study also adds to the recent literature on responsible capitalism (Mayer, 2021; Edmans, 2020; Henderson, 2021) by emphasizing the importance of environmental and social owner objectives as a governance mechanism that fosters a company's commitment to sustainability. Moreover, our study goes beyond financial measures of performance to investigate the effects of foundation ownership, which sets it apart from prior studies that concentrated on financial performance (e.g., Thomsen, 1996; Hermann & Franke, 2002; Achleitner et al., 2020). Lastly, we reiterate the importance of owner identity for investment in social capital, especially during economic downturns consistent with Crespi-Cladera and Martín-Oliver (2015), Lagaras and Tsoutsoura (2015), and Amato et al. (2021). In general, companies respond to financial crises by reducing capital investments (Campello et al., 2010; Almeida et al., 2011; Duchin et al., 2010). However, our findings suggest that firms with committed owners, such as enterprise foundations, are more likely to undertake environmental and social activities during an economic meltdown.

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Contribution Statement

David Schröder: Conceptualization, Method, Writing - original draft, Writing - review & editing, Formal analysis. **Steen Thomsen:** Research Design, Conceptualization, Method, Writing - original draft, Writing - review & editing, Supervision.

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TABLES AND FIGURES

Table 1. Descriptive data

The table provides descriptive data about the sample and is divided into three panels. Panel A provides descriptive statistics for both the Full Sample and the different owner groups (foundation-owned, family-owned, and investor-owned). In Panel B, the means of key variables are compared between foundation-owned firms and non-foundation-owned firms, while Panel C presents the correlation matrix for these variables. Table A1 contains definitions of the variables used in our analysis. We match foundation-owned companies with a control group consisting of family firms and investor-owned companies. Matching is based on industry affiliation (represented by two-digit SIC codes) and firm size (total assets). Further details of our matching approach are described in Table A12.

Panel A: Summary Statistics

Full Sample	N	Mean	Median	Standard Deviation	Min.	Max.
ESG	1879	50.08	51.28	20.34	2.41	93.57
ENV	1879	47.79	51.36	27.82	0	98.35
SOC	1879	50.86	51.08	24.31	.73	98.03
GOV	1879	50.04	50.07	21.78	2.07	98.47
Firm Size	1879	8.76	8.75	1.27	3.73	12.46
ROA	1879	.12	0.11	.1	-1.75	.58
Leverage	1879	.25	0.24	.16	0	1.03
Tobin's Q	1879	1.64	1.14	1.75	.13	35.52
Cash Holdings	1879	.13	0.10	.11	0	.91
Foundation-owned						
ESG	532	56.82	57.64	18.45	7.84	93.57
ENV	532	55.79	58.78	24.54	0	98.35
SOC	532	61.14	65.27	21.87	4	98.03
GOV	532	50.41	50.97	21.49	2.41	98.47
Firm Size	532	8.82	8.64	1.33	3.73	12.46
ROA	532	.14	0.12	.09	-.26	.58
Leverage	532	.22	0.21	.14	0	.65
Tobin's Q	532	1.78	1.18	1.62	.36	12.25
Cash Holdings	532	.11	0.09	.09	.01	.59
Family-owned						
ESG	501	46.15	46.93	20.27	4.56	92.38
ENV	501	44.57	47.95	26.99	0	94.59
SOC	501	46.85	46.59	23.38	.73	97.47
GOV	501	46.03	44.86	21.86	4.32	93.47
Firm Size	501	8.64	8.58	1.15	6.07	11.65
ROA	501	.13	0.12	.07	-.19	.44
Leverage	501	.25	0.24	.16	0	.96
Tobin's Q	501	1.59	1.20	1.28	.31	8.23
Cash Holdings	501	.13	0.10	.1	0	.64
Investor-owned						
ESG	846	48.18	49.09	20.53	2.41	92.32
ENV	846	44.67	46.96	29.23	0	96.92
SOC	846	46.77	44.35	24.43	1.53	96.16
GOV	846	52.19	52.34	21.61	2.07	94.34
Firm Size	846	8.78	8.88	1.31	5	11.46
ROA	846	.11	0.11	.12	-1.75	.47
Leverage	846	.27	0.26	.16	0	1.03
Tobin's Q	846	1.57	1.06	2.05	.13	35.52
Cash Holdings	846	.14	0.11	.12	0	.91

Panel B: Difference of Means Tests

	Observations	Foundation- owned Firms	Observations	Non- foundation- owned Firms	Differences in Means
ESG	532	56.82	1347	47.43	9.39***
ENV	532	55.79	1347	44.64	11.153***
SOC	532	61.14	1347	46.80	14.34***
GOV	532	50.41	1347	49.90	0.51
Firm Size	532	8.82	1347	8.73	0.09
ROA	532	0.14	1347	0.11	0.03***
Leverage	532	0.22	1347	0.26	(0.04)***
Tobin's Q	532	1.78	1347	1.58	0.21**
Cash Holdings	532	0.11	1347	0.13	(0.02)***

Panel C: Correlation Data

This table presents Pearson correlation coefficients for some of the key variables. Bolded correlations are significant at the 5% level or lower. Further details on variable definitions can be found in Appendix A1.

Variables	VIF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Foundation	1.05	1.000												
(2) ESG		0.208*	1.000											
(3) ENV		0.181*	0.866*	1.000										
(4) SOC		0.266*	0.900*	0.707*	1.000									
(5) GOV		0.011	0.655*	0.387*	0.399*	1.000								
(6) ESG (MSCI)		0.186*	0.401*	0.348*	0.364*	0.261*	1.000							
(7) ESG (Bloomberg)		0.167*	0.757*	0.722*	0.682*	0.431*	0.404*	1.000						
(8) ESG (S&P)		0.024	0.551*	0.452*	0.512*	0.346*	0.296*	0.464*	1.000					
(9) Firm Size	1.18	0.033	0.461*	0.462*	0.370*	0.308*	0.178*	0.372*	0.289*	1.000				
(10) ROA	1.05	0.113*	0.029	0.044	0.010	0.010	0.064*	0.084*	-0.081*	-0.084*	1.000			
(11) Leverage	1.15	-0.115*	0.053*	0.022	0.047*	0.081*	-0.104*	-0.034	-0.038	0.239*	-0.107*	1.000		
(12) Tobin's Q	1.25	0.053*	-0.059*	-0.090*	-0.009	-0.080*	-0.012	-0.066*	-0.091*	-0.335*	0.120*	-0.146*	1.000	
(13) Cash Holdings	1.21	-0.083*	-0.164*	-0.161*	-0.151*	-0.070*	-0.112*	-0.125*	-0.148*	-0.170*	-0.049*	-0.258*	0.321*	1.000

Table 2. Multivariate Analysis. Foundation-owned Firms versus Family Firms (Refinitiv ESG Data)

Note: This panel presents the results of OLS estimates with firm-clustered standard errors reported in parentheses. The dependent variables are the ESG, environmental (ENV), social (SOC) and governance (GOV) variables provided by Refinitiv over the sample period. The control group consists of family-owned firms. Control variables are Leverage, ROA, Tobin's Q, Firm Size (natural logarithm of total assets), Cash Holdings. We include industry (two-digit SIC codes), country and year fixed effects. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation	14.37** (5.590)	15.47** (6.859)	17.07*** (5.602)	9.580 (6.196)	8.791** (4.017)	9.754* (5.491)	11.20*** (3.875)	4.356 (5.055)
Firm Size					10.51*** (0.983)	11.85*** (1.465)	11.41*** (1.072)	8.238*** (1.314)
ROA					20.95 (15.35)	41.60* (24.30)	35.59* (18.43)	-16.54 (14.90)
Leverage					-4.345 (7.924)	-13.01 (12.38)	-5.212 (8.716)	3.525 (10.65)
Tobin's Q					1.203 (0.821)	1.195 (1.257)	0.804 (0.990)	1.304 (1.043)
Cash Holdings					-31.80*** (10.01)	-44.44*** (13.26)	-30.86*** (11.61)	-20.80 (12.72)
Constant	11.48 (7.275)	8.542 (10.42)	8.611 (8.417)	16.24* (9.126)	-70.05*** (12.43)	-81.84*** (17.50)	-77.18*** (12.72)	-51.47*** (15.51)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	1,101	1,101	1,101	1,101	1,033	1,033	1,033	1,033
R-squared	0.436	0.448	0.444	0.314	0.643	0.614	0.620	0.439

Table 3. Regressions using a propensity score matched sample (Refinitiv ESG data)

This table presents the results of the analysis on a propensity score-matched sample. Column (1) illustrates the probit regression that was utilized to calculate the propensity scores. We regress the foundation dummy on observables. The matching parameters consist of *Firm Size*, *Cash Holdings*, *Leverage*, *ROA*, and industry membership (at the level of SIC divisions). A calliper of 0.05 is used, and replacement is allowed. A matched sample was created based on the propensity score. Columns (2) to (5) present OLS regressions using the propensity-score-matched sample, with the dependent variable being the ESG, environmental (ENV), social (SOC), and governance (GOV) variables provided by Refinitiv over the sample period. We include industry, year, and country fixed effects. Variable Definitions are provided in Table A1. *, **, *** denote statistical significance at the 10, 5, and 1 percent significance level respectively. Robust standard errors clustered by firm are in parentheses.

Dependent Variable:	Probit (1) Foundation	Results using PSM sample				(2) ESG	(3) ENV	(4) SOC	(5) GOV
		(2) ESG	(3) ENV	(4) SOC	(5) GOV				
Foundation		9.228** (3.769)	14.58*** (4.647)	10.56*** (3.785)	1.383 (5.155)	6.221* (3.178)	11.17*** (3.892)	7.255** (3.165)	-0.721 (4.723)
Firm Size	-0.141** (0.0617)					24.79*** (7.676)	31.44** (13.94)	32.01*** (8.898)	5.326 (8.818)
ROA	0.0452 (0.481)					8.597*** (0.630)	10.08*** (0.822)	9.432*** (0.662)	6.056*** (0.883)
Leverage	-0.900** (0.390)					-6.502 (6.165)	-10.49 (9.018)	-9.798 (7.289)	1.726 (8.230)
Cash Holdings	-2.151*** (0.645)					1.323 (8.138)	-17.62 (12.62)	2.944 (9.917)	5.391 (8.942)
Constant	-0.726 (0.588)	25.28*** (4.095)	16.88*** (6.363)	7.946* (4.409)	61.46*** (4.762)	-40.49*** (7.993)	-57.92*** (12.11)	-63.67*** (8.834)	13.53 (9.392)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	16,802	1,212	1,212	1,212	1,212	1,212	1,212	1,212	1,212
R-squared		0.392	0.421	0.420	0.214	0.588	0.580	0.588	0.300

Table 4. Real Sustainability Outcomes (Foundation-owned Firms versus Non-Foundation-owned Firms)

This panel presents the results of pooled OLS estimations of real sustainability outcome variables. We use real sustainability metrics from Refinitiv and Trucost that are related to the social and environmental dimensions, respectively. The selection of these metrics is based on interconnected factors. Firstly, we choose quantitative environmental and social measures that have relevance across a wide range of firms. Secondly, we exclusively include actual numerical outputs rather than binary indicators. For the social dimension, we obtain quantitative variables from Refinitiv, namely *Employee Satisfaction* and *Injury Rate*, which represent a subset of corporate social responsibility (CSR) activities. The environmental variables, *CO2 Emission Intensity*, *Environmental Damage (Direct)*, and *Environmental Damage (Direct and Indirect)*, are sourced from Trucost. The control group consists of non-foundation-owned firms (investor-owned firms and family firms). Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* (natural logarithm of total assets) and *Cash Holdings*, and industry and year fixed effects. The reduced sample size in Models (1) and (2) is due to lower coverage of the quantitative Refinitiv ESG metrics. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level, respectively.

Dependent Variable:	(1) Employee Satisfaction	(2) Injury Rate	(3) CO2 Emissions Intensity	(4) Environmental Damage (Direct)	(5) Environmental Damage (Direct and Indirect)
Foundation	4.860** (1.851)	-1.620* (0.964)	-142.4* (78.44)	-0.797** (0.391)	-0.989* (0.577)
Firm Size	-0.311 (0.776)	-0.779*** (0.221)	31.09 (22.92)	0.0634 (0.107)	-0.140 (0.208)
Leverage	30.94*** (10.03)	1.285 (1.805)	440.3 (389.8)	1.824 (1.795)	-2.098 (2.409)
Tobin's Q	5.360 (5.333)	-0.566*** (0.215)	11.00 (21.42)	-0.116 (0.120)	-0.393** (0.195)
ROA	-0.237 (0.481)	7.768*** (2.608)	-482.3 (465.3)	0.339 (2.305)	0.673 (2.966)
Cash Holdings	-3.445 (7.778)	-5.650* (3.091)	412.9 (587.0)	2.493 (2.676)	-0.876 (3.377)
Regulatory Quality			1.273 (7.906)	-0.0105 (0.0134)	-0.0197 (0.0175)
Constant	47.10*** (6.971)	28.86*** (2.507)	-102.0 (377.9)	6.524*** (1.838)	14.03*** (2.624)
Year FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	No	No	No
Industry FE	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm
Observations	311	801	1,275	1,275	1,275
R-squared	0.574	0.611	0.446	0.326	0.441

Table 5. MSCI ESG Intangible Value Assessment (Foundation-owned Firms versus Non-foundation-owned Firms)

This table reports the results of the MSCI IVA sample. We regress MSCI ESG Intangible Value Assessment (MSCI), which captures financial materiality, on foundation ownership and other control variables. In Models 2 to 4, we take the Environmental, Social, and Governance Scores provided by MSCI. In addition to year fixed effects, we incorporate fixed effects for two-digit SIC codes. According to Ferrell et al. (2016), the MSCI ratings are unaffected by variations in jurisdiction, regulation, and local CSR conditions across countries. As a result, instead of incorporating country fixed effects, we exclusively consider a country-level index, specifically the World Governance Indicators' *Regulatory Quality* variable. Definitions are provided in Table A1. Standard errors are robust and clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Dependent Variable:	(1) ESG (MSCI)	(2) ENV (MSCI)	(3) SOC (MSCI)	(4) GOV (MSCI)
Foundation	3.445*** (1.277)	5.024*** (1.806)	1.921 (1.768)	3.387** (1.643)
Firm Size	4.999 (3.570)	4.304*** (0.650)	0.878 (0.626)	-0.167 (0.592)
Leverage	1.774*** (0.417)	-1.286 (5.438)	4.110 (5.078)	2.904 (5.067)
Cash Holdings	-9.873* (5.125)	0.928* (0.474)	1.015** (0.486)	0.417 (0.366)
ROA	-1.028 (3.426)	-19.14** (8.175)	3.115 (8.061)	-12.55 (7.977)
Tobin's Q	0.913*** (0.322)	3.809 (6.861)	9.251* (5.398)	8.720* (5.215)
Regulatory Quality	0.148** (0.0583)	0.0522 (0.0712)	0.193** (0.0795)	0.217*** (0.0639)
Constant	16.97** (7.307)	-6.943 (10.18)	17.65* (10.11)	7.219 (8.911)
Observations	1,893	1,893	1,893	1,893
Year FE	Yes	Yes	Yes	Yes
Country FE	No	No	No	No
Industry FE	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm
R-squared	0.281	0.357	0.166	0.210

Table 6. Regression Results Charitable versus Family Foundations

Notes: This panel presents the results of OLS estimates comparing charitable and private foundations in terms of ESG performance. To ensure comparability, charitable and private foundations are matched based on their firm size (natural log of total assets), and the regressions are carried out on the matched sample. The dependent variables are the ESG, environmental (ENV), social (SOC) and governance (GOV) variables provided by Refinitiv over the sample period (2003-2020). Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* (natural logarithm of total assets) and *Cash Holdings*. We include industry (two digit SIC Code), country and year fixed effects. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively. Firm-clustered standard errors are reported in parentheses.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Charitable	17.45**	29.12***	18.20*	3.921	9.802*	20.31***	9.649	-1.324
Foundation	(6.910)	(4.647)	(9.630)	(14.47)	(5.633)	(6.954)	(6.954)	(8.780)
Firm Size					7.635***	8.655***	7.979***	7.020***
					(1.679)	(2.375)	(2.134)	(1.518)
ROA					30.75*	28.78	40.26	13.15
					(16.76)	(17.96)	(24.70)	(17.72)
Leverage					1.019	0.571	-0.0522	-3.387
					(19.07)	(22.24)	(23.43)	(15.54)
Tobin's Q					0.0436	2.259	0.925	-3.461**
					(1.630)	(2.038)	(2.269)	(1.351)
Cash Holdings					-35.90**	-61.07**	-37.91	-10.33
					(17.64)	(23.83)	(24.75)	(14.23)
Constant	7.757	-9.501	5.127	27.29	-37.61**	-60.53***	-42.95*	-13.70
	(10.18)	(15.14)	(11.87)	(18.53)	(17.48)	(21.65)	(21.72)	(21.22)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	395	395	395	395	395	395	395	395
R-squared	0.790	0.808	0.735	0.688	0.835	0.840	0.773	0.738

Table 7. Difference-in-differences analyses on ESG Activities

Notes. Results obtained from estimating the difference-in-differences model (Eq. (3)). We examine foundation-owned companies sustainability activities around the global financial crisis by regressing ESG and sub-pillars on the interaction term Foundation \times Post along with other control variables (but we omit the coefficients for brevity). The control group is selected based on matching parameters from the pool of companies listed on the Refinitiv Global Equity Index. To reduce the effect of firm size and industry membership (FF12), we apply coarsened exact matching (we use the Stata command “cem”). The matching procedure is based on averaged pre-crisis values of our firm size covariate (measured by the natural logarithm of total assets) and Fama & French 12 industry groups. Firm controls in specifications (5) to (8) include *Leverage*, *ROA*, *Firm Size* (natural logarithm of total assets) and *Cash Holdings*. We also include industry and country fixed-effects. Year fixed effects are also included in Models (5) to (8). The sample period is 2006-2012 (two years before and four after the crisis). Table A1 provides definitions for the variables. Robust standard errors (in parentheses) are clustered at the firm-level. *, **, and *** denotes significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation \times Post	5.398** (2.344)	7.668** (3.153)	8.313*** (2.756)	-2.104 (3.281)	5.478** (2.385)	8.013** (3.260)	8.555*** (2.766)	-2.508 (3.288)
Firm Controls	No	No	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	4,908	4,908	4,908	4,908	4,872	4,872	4,872	4,872
R-squared	0.280	0.343	0.292	0.125	0.510	0.567	0.476	0.209

Table 8. Social and Environmental Foundation Purposes and ESG Activities

Notes. Table 8 analyzes the relation between foundation purposes (*Social*, *Environmental*) and ESG Activities at the firm level. *Environmental Purpose* is indicated by a dummy variable with a value of one when the foundation's objective is to achieve environmental goals, such as addressing climate change or preserving nature. Similarly, *Social Purpose* is indicated by a dummy variable with a value of one when the foundation's objective is to achieve social goals, such as healthcare, social justice, education, and poverty alleviation. The *Environmental and Social Purpose* variable takes on a value of one when firms have combined environmental and social purposes. Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* and *Cash Holdings*. We include industry (two-digit SIC Code), country and year fixed effects. Table A1 provides definitions for the variables. Robust standard errors (in parentheses) are clustered at the firm level. *, **, and *** denotes significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable:	(1) ENV	(2) SOC	(3) ESG	(4) ESG	(5) ESG
Environmental Purpose	12.37** (5.950)		9.718** (4.623)		
Social Purpose		13.25*** (3.509)		6.823** (3.095)	
Environmental and Social Purpose					13.04*** (4.085)
Firm Size	9.171*** (2.310)	9.053*** (1.663)	7.805*** (1.512)	8.215*** (1.319)	9.568*** (0.758)
Leverage	4.119 (21.17)	31.24** (15.54)	12.31 (14.96)	11.74 (14.31)	8.432 (7.364)
Tobin's Q	-14.42 (19.79)	-4.189 (15.50)	-3.700 (15.41)	-9.100 (14.55)	0.523 (5.659)
ROA	1.287 (1.398)	0.848 (1.558)	0.632 (1.018)	1.083 (1.171)	1.167*** (0.357)
Cash Holdings	-57.21*** (20.86)	-24.79 (19.08)	-24.47* (13.37)	-32.06** (14.87)	-20.20*** (7.436)
Constant	-53.49*** (17.83)	-58.70*** (16.72)	-41.38*** (13.03)	-42.20*** (13.36)	-54.97*** (9.110)
Year FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm
Observations	532	532	532	532	532
R-squared	0.722	0.699	0.738	0.733	0.742

Table 9. Instrumental Variable Regressions: ESG and Foundation Ownership

This table presents the instrumental variable regression results. Column (1) shows the result of the first-stage regression. The instruments are survey-based measures of trust, which are drawn from the World Value Survey, in particular question a165. In Question 165a of the survey, participants are asked to rate their trust towards others. The respondents assign a numerical score ranging from one to three (1 means "Cannot be trusted," 2 represents "Depends or don't know," and 3 indicates "Can be trusted"). The "High Trust" variable indicates whether a country has above-median trust for each year. WVS Trust represents the average response at the country level. Columns (2) to (5) report the second-stage regression results for ESG, ENV, SOC and GOV. Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* and *Cash Holdings*. The definitions for the variables can be found in Table A1. Robust standard errors are clustered at the firm level. *, **, *** denote statistical significance at the 10, 5, and 1 percent significance level respectively.

	(1)	(2)	(3)	(4)	(5)
	First-stage	Second-	Second-	Second-	Second-
Dependent Variable:	Foundation	Stage ESG	Stage ENV	Stage SOC	Stage GOV
High Trust	1.341*** (0.456)				
WVS Trust	0.0452** (0.0184)				
Predicted Foundation		18.24*** (5.809)	19.31*** (7.197)	25.77*** (7.656)	7.381 (6.016)
Firm size	0.268** (0.134)	9.665*** (0.837)	12.62*** (1.134)	10.17*** (1.091)	6.061*** (1.088)
ROA	4.003 (2.570)	3.036 (6.417)	10.28 (8.991)	-5.713 (9.570)	4.917 (6.374)
Tobin's Q	1.198 (0.862)	0.738 (5.334)	-3.031 (8.384)	3.695 (6.725)	1.005 (6.984)
ROA	0.0752 (0.102)	0.567 (0.399)	0.433 (0.579)	0.906* (0.536)	-0.0900 (0.506)
Cash Holdings	-2.316 (1.524)	-12.34* (7.482)	-17.96* (10.82)	-10.00 (10.60)	-5.733 (11.11)
Regulatory Quality	-0.0536*** (0.0148)	0.0925 (0.0663)	0.126 (0.0902)	0.113 (0.0897)	-0.00646 (0.0839)
Constant	-2.849* (1.676)	-45.51*** (10.25)	-72.57*** (15.44)	-51.09*** (12.64)	-8.764 (15.60)
Observations	1,204	1,425	1,425	1,425	1,425
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Hansen's J Test		0.57	2.48	1.52	1.51
P-Value		0.4520	0.1152	0.2182	0.2187
Clustered by		Firm	Firm	Firm	Firm
R-squared		0.598	0.579	0.549	0.248

Figure 1. PSM Density Distribution.

In this graph, the density functions (y-axis) for both the treated and control groups, along with the propensity scores (x-axis), are displayed. The top graph represents the data before matching, while the bottom graph represents the data after matching.

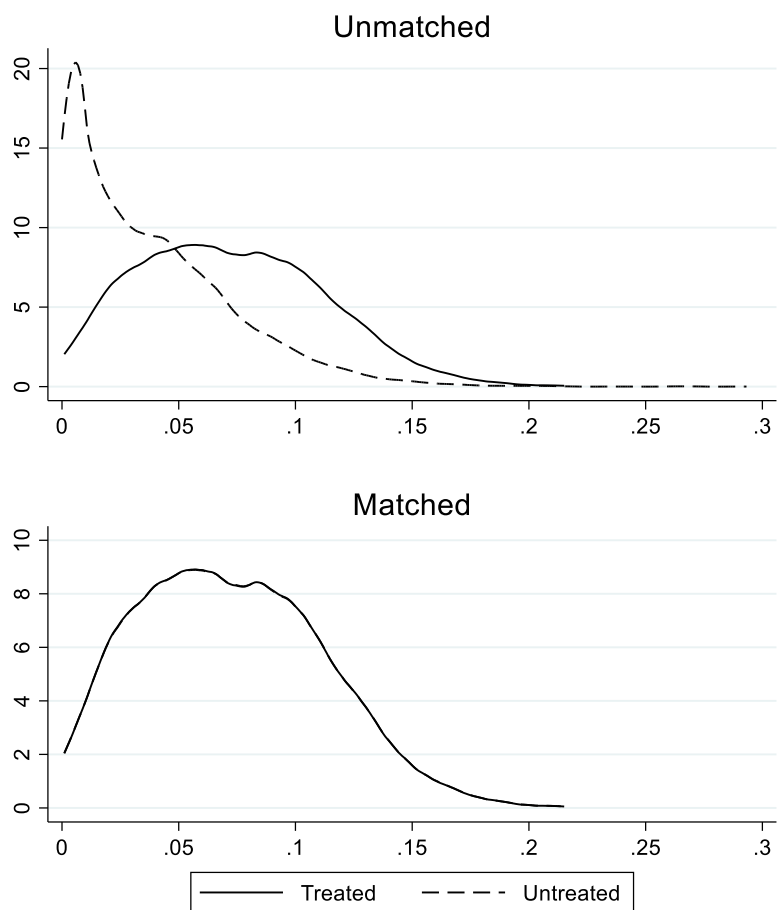
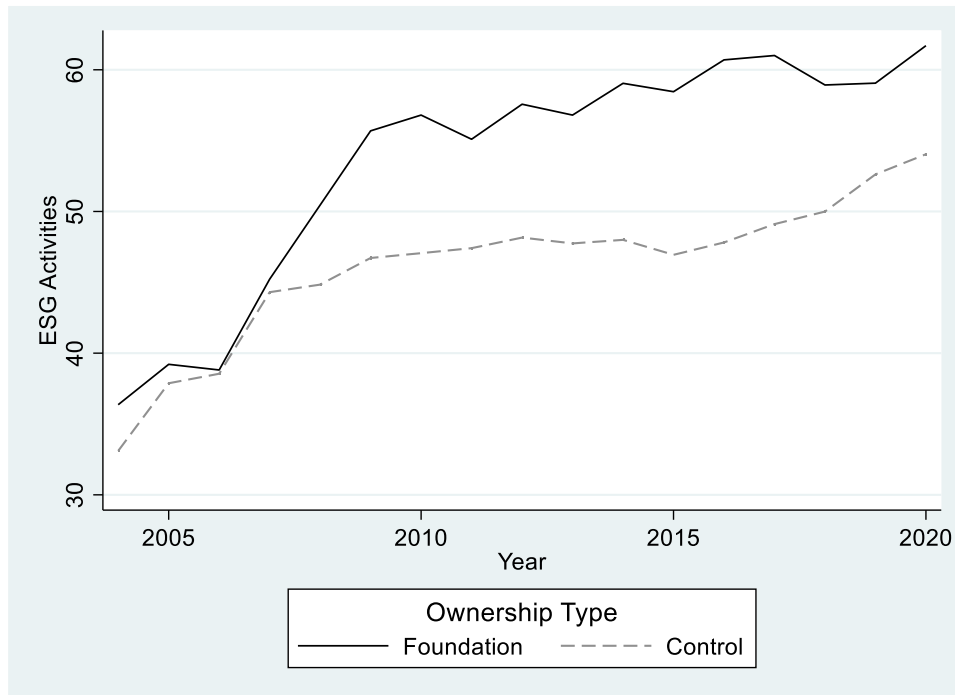


Figure 2. ESG Activities by Ownership Type

Notes. This figure plots the average ESG engagement over time for our treated foundation-owned firms compared to the control group consisting of family-owned and investor-owned firms (Refinitiv ESG sample). We average the ESG score by ownership type in every year over the sample period 2003–2020.



Appendix

Table A1. List of Variables and Data Sources

The table provides a description of the variables used in the analysis and specifies their corresponding data sources.

Variable	Description	Source (s)
Cash holdings	Ratio of cash and short-term investments divided by the book value of total assets (AT)	Bloomberg
Charitable Foundation	Dichotomous variable; if a charitable foundation is the largest shareholder in a company foundation owner = 1 and charitable foundation = 0 otherwise	Hand-collected information from annual reports and websites
CO2 Emissions Intensity	Greenhouse gas (GHG) emissions from sources that are owned or controlled by the company divided by the company's revenue	Trucost
Emission Reduction	This score assesses a company's commitment and efficacy in mitigating environmental emissions during its production and operational activities. It falls under the Environment Pillar.	Refinitiv (Datastream)
Employee Satisfaction	The percentage of employee satisfaction as reported by the company.	Refinitiv (Datastream)
ENV	Refinitiv's Environment Pillar Score is the weighted average relative rating of a company based on the reported environmental information and the resulting three environmental category scores.	Refinitiv (Datastream)
ENV (Bloomberg)	The Environmental Disclosure score, ranking from 0,1 to 100, calculated by Bloomberg, indicates the amount of Environmental data a company reports publicly, considering the importance relevant to different industry sectors.	Bloomberg
ENV (MSCI)	The Environmental Pillar Score represents the weighted average of all Key Issues that fall under the Environment Pillar.	MSCI
Environmental Damage (Direct)	Total direct environmental external cost of operations as a percentage of revenue.	Trucost

Environmental Damage (Direct and Indirect)	Combined costs, both direct and indirect, that are associated with external environmental factors.	Trucost
ENV_grants	The percentage of grants dedicated to environmental causes.	Hand-collected information from foundation websites
Environmental Purpose	Indicator variable that takes a value of one if a foundation is actively pursuing environmental goals.	Hand-collected information from foundation websites
ESG	Relative Performance of ESG factors with the company's sector (for ENV and SOC) and with the country of incorporation for Governance.	Refinitiv (Datastream)
ESG (Bloomberg)	The ESG Disclosure score, ranking from 0,1 to 100, calculated by Bloomberg, indicates the amount of ESG data a company reports publicly, considering the importance relevant to different industry sectors.	Bloomberg
ESG (MSCI)	A company's final ESG Rating. To arrive at a final letter rating, the weighted average of the key issue scores are aggregated and companies are ranked from best (AAA) to worst (CCC).	MSCI
ESG (S&P Global)	ESG score from S&P Global (previously RobecoSAM) ranging from 0 to 100. S&P obtains ESG-dimension data from companies via questionnaires and complements it with a secondary media analysis.	S&P Global
Firm Size	Natural logarithm of the book value of total assets (AT)	Bloomberg
Foundation	A binary variable that assumes the value 1 when the foundation is the largest owner voting a 10% or larger stake, 0 otherwise	BvD Orbis, hand-collected information from annual reports, proxy statements, websites and Thomsen (2017)
Foundation_held	Percentage of shares held by a charitable foundation	S&P Capital IQ

GOV	Refinitiv's Governance Pillar Score is the weighted average relative rating of a company based on the reported governance information and the resulting three governance category scores.	Refinitiv (Datastream)
GOV (MSCI)	The Governance Pillar Score represents the weighted average of all Key Issues that fall under the Governance Pillar.	MSCI
GOV Bloomberg	The Governance Disclosure score, ranking from 0,1 to 100, calculated by Bloomberg, indicates the amount of Governance data a company reports publicly, considering the importance relevant to different industry sectors.	Bloomberg
High Trust	The dummy High Trust is based on question a165 equal to one if a country has above-median levels of trust within a particular year.	World Value Survey (WVS)
Leverage	Ratio of long-term debt plus debt in current liabilities (DLC) to the book value of total assets (AT)	Bloomberg
Injury Rate (Employees)	Total employees accident (number of injuries) divided by total employees working hours, multiplied by 1,000,000.	Refinitiv (Datastream)
Regulatory Quality	Regulatory quality refers to the extent to which the government is perceived to have the capacity to create and enforce effective policies and regulations that facilitate and encourage the growth of the private sector.	World Bank World Governance Indicators
ROA	Ratio of operating income before depreciation and amortization (EBITDA) to the book value of total assets total assets (AT)	Bloomberg
SOC	Refinitiv's Social Pillar Score is the weighted average relative rating of a company based on the reported social information and the resulting four social category scores.	Refinitiv (Datastream)

SOC (Bloomberg)	The Social Disclosure score, ranking from 0,1 to 100, calculated by Bloomberg, indicates the amount of Social firm-level data a company reports publicly, considering the importance relevant to different industry sectors.	Bloomberg
SOC (MSCI)	The Social Pillar Score represents the weighted average of all Key Issues that fall under the Social Pillar.	MSCI
SOC_grants	The percentage of grants allocated to social causes.	Hand-collected information from foundation websites
Social Purpose	An indicator variable that is assigned a value of one if a foundation is actively pursuing social goals.	Hand-collected information from foundation websites
Social and Environmental Purpose	If a foundation is actively working towards both social and environmental objectives, the indicator variable is set to a value of one.	Hand-collected information from foundation websites
Tobin's Q	$\frac{(\text{Market capitalization} + \text{Book value of total debt})}{\text{Total Assets (AT)}}$	Bloomberg
WVS Trust	Mean response at the country-level to the question a165 about trust (1=Cannot be trusted, 3=Can be trusted 2= depends or don't know)	World Value Survey (WVS)

Table A2. Distribution of Observations and Firms by Industry

Notes. This table shows the distribution of our baseline (Refinitiv) sample by industry, where industries are classified based on SIC divisions. The SIC divisions used are as follows: agriculture (SIC 00-09, not present in our sample); mining (SIC 10-14); construction (SIC 15-19); manufacturing (SIC 20-39); utilities (SIC 40-49); wholesale trade (SIC 50-51); retail trade (SIC 52-59); finance, insurance, and real estate (SIC 60-69, excluded from our sample); services (SIC 70-89); and non-classifiable industries (SIC 99, not present in our sample).

Industry	Observations	%	Firms	%
Agriculture	0	0.0%	0	0.0%
Mining	49	2.6%	6	2.8%
Construction	90	4.8%	11	5.2%
Manufacturing	1355	72.1%	141	66.5%
TCEG & S*	165	8.8%	19	9.0%
Wholesale Trade	47	2.5%	7	3.3%
Retail Trade	14	0.7%	4	1.9%
Services	159	8.5%	24	11.3%
Nonclassifiable	0	0.0%	0	0.0%
All	1,879	100%	212	100%

Table A3. Frequency by year

Notes. Distribution of our baseline Refinitiv sample by year

Year	Number of observations	%
2003	31	2%
2004	41	2%
2005	45	2%
2006	52	3%
2007	57	3%
2008	76	4%
2009	91	5%
2010	98	5%
2011	107	6%
2012	106	6%
2013	111	6%
2014	115	6%
2015	136	7%
2016	143	8%
2017	155	8%
2018	189	10%
2019	202	11%
2020	124	7%
All	1879	100%

Table A4. Distribution of Observations and Firms by Country

Notes. Distribution of our baseline (Refinitiv) sample by country.

Country	Number of observations	%	Number of firms	%
Denmark	144	8%	17	8%
Sweden	166	9%	22	10%
Germany	82	4%	11	5%
Austria	61	3%	8	4%
Luxembourg	21	1%	3	1%
France	72	4%	8	4%
Great Britain	55	3%	8	4%
United States	409	22%	48	23%
India	75	4%	13	6%
Netherlands	68	4%	5	2%
Italy	5	0%	2	1%
Belgium	17	1%	1	0%
Finland	44	2%	4	2%
Japan	282	15%	21	10%
Brazil	37	2%	4	2%
Norway	27	1%	4	2%
Switzerland	109	6%	12	6%
Canada	50	3%	4	2%
Taiwan	10	1%	1	0%
Spain	15	1%	2	1%
Indonesia	3	0%	1	0%
Ireland	40	2%	3	1%
Philippines	10	1%	1	0%
Colombia	4	0%	1	0%
China	9	0%	1	0%
Kenya	13	1%	1	0%
South Korea	39	2%	5	2%
Mexico	12	1%	1	0%
All	1879	100%	212	100%

Table A5. PSM Covariate Balance.

This table presents the covariate balance of the propensity score matching analysis (Table 3). We employ probit regressions to determine the propensity scores (Equation 2), incorporating all covariates except for Tobin's Q, which significantly reduces the sample size, including industry membership (at the level of SIC divisions), and a calliper of 0.05, with replacement permitted. The fundamental assumption underlying our PSM analysis is that the allocation of units to either the treatment (foundation ownership) or control group (non-foundation-owned firms) is random. To determine whether this is the case, we assess the covariate balance. The right-hand Column provides the T-statistics. Variable definitions are provided in Table A1.***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable		Mean Value		Difference (2) vs. (1)	
		Treated (1)	Control (2)	Diff. (absolute)	t-stat
Firm Size	Unmatched	8.54	8.96	0.42***	-7.33
	Matched	8.54	8.52	-0.02	0.3
Leverage	Unmatched	0.22	0.26	0.04***	-5.65
	Matched	0.22	0.22	-0.001	0.32
ROA	Unmatched	0.15	0.13	(-0.014)***	3.09
	Matched	0.15	0.15	0.001	-0.12
Cash Holdings	Unmatched	0.10	0.14	0.039***	-6.72
	Matched	0.10	0.10	-0.003	0.47
Services	Unmatched	0.03	0.16	0.134	-8.75
	Matched	0.03	0.04	0.01	-0.6
Manufacturing	Unmatched	0.82	0.52	(-0.3)***	14.85
	Matched	0.82	0.82	0	0.07
Utilities	Unmatched	0.11	0.17	0.067***	-4.39
	Matched	0.11	0.12	0.009	-0.54
Construction	Unmatched	0.04	0.03	-0.005	0.61
	Matched	0.04	0.02	(-0.017)*	1.94
Wholesale Trade	Unmatched	0.01	0.03	0.019***	-2.56
	Matched	0.01	0.01	0	0
Mining	Unmatched	0.01	0.11	0.104***	-8.34
	Matched	0.01	0.01	0.003	-0.71

Table A6. Regression Results Foundation-owned Firms versus Investor-owned Firms (Refinitiv Sample)

Notes: This panel presents the results of OLS estimates with firm-clustered standard errors are reported in parentheses. The dependent variables are the ESG, environmental (ENV), social (SOC) and governance (GOV) variables provided by Refinitiv over the sample period. The control group consists of investor-owned firms. Control variables are Leverage, ROA, Tobin's Q, Firm Size (natural logarithm of total assets), Cash Holdings. We include industry, country and year fixed effects. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation	3.935 (4.714)	11.40 (7.065)	3.959 (6.235)	-5.638 (4.484)	-0.896 (5.335)	6.229 (8.638)	-1.890 (7.083)	-9.721** (4.609)
Firm Size					9.111*** (0.795)	11.66*** (1.244)	9.922*** (1.011)	5.539*** (1.248)
ROA					12.86** (6.125)	16.59* (9.429)	10.75 (8.951)	10.91** (4.699)
Leverage					-1.707 (5.580)	-0.855 (8.986)	0.598 (6.864)	-3.334 (6.233)
Tobin's Q					0.886** (0.342)	1.611*** (0.561)	1.379*** (0.468)	-0.568 (0.452)
Cash Holdings					-13.79* (7.864)	-30.69** (13.26)	-4.975 (10.56)	-4.143 (10.17)
Constant	-9.429 (10.56)	-58.11*** (15.86)	-7.072 (15.09)	46.84*** (10.72)	-64.76*** (14.35)	-122.8*** (21.99)	-60.11*** (17.31)	9.290 (15.94)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	1,460	1,460	1,460	1,460	1,378	1,378	1,378	1,378
R-squared	0.517	0.509	0.529	0.303	0.691	0.662	0.666	0.377

Table A7. Robustness with alternative ESG Measurements S&P Global (Model 1) and Bloomberg (Models 2 to 5)

This table shows the results from the OLS regressions on the matched sample comparing the sustainability performance of foundation-owned companies. The dependent variables are the ESG score provided by S&P Global (Model 1), the ESG rating provided by Bloomberg (Model 2) and the Bloomberg sub-dimensions (Models 3 to 5). We include control variables and year as well as industry fixed effects (not reported for conciseness). To account for variation at the country level, we include the World Governance Indicators' Regulatory Quality variable in our analysis (Models (2) to (5)). Table A1 contains the definitions for the variables. Standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Dependent Variable:	(1) ESG (S&P Global)	(2) ESG (Bloomberg)	(4) ENV (Bloomberg)	(5) SOC (Bloomberg)	(6) GOV (Bloomberg)
Foundation	10.72* (6.138)	5.157*** (1.736)	3.370 (2.262)	4.644** (1.926)	0.538 (1.227)
Firm Size	4.246* (2.142)	4.392*** (0.601)	3.839*** (0.782)	3.687*** (0.574)	2.759*** (0.423)
ROA	38.03 (28.22)	9.163* (5.353)	12.49 (14.35)	9.909 (12.17)	-2.358 (3.713)
Leverage	-10.03 (15.34)	-0.218 (1.501)	-2.496 (2.319)	-2.122 (1.526)	2.159*** (0.806)
Tobin's Q	-0.713 (1.283)	0.839* (0.488)	0.608 (0.894)	1.490** (0.741)	0.434 (0.361)
Cash Holdings	-23.27 (15.65)	-24.77*** (6.468)	-32.13*** (9.212)	-32.14*** (8.037)	-4.968 (5.393)
Regulatory Quality		0.0293 (5.042)	0.0745 (5.631)	0.0197 (6.303)	-0.0456 (3.100)
Constant	-6.801 (17.07)	5.222 (4.580)	-7.735 (5.518)	8.773 (5.877)	41.84*** (4.369)
Country FE	Yes	No	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm
Observations	582	1,487	1,253	1,351	1,487
R-squared	0.566	0.475	0.386	0.410	0.317

Table A8. Restricted sample excluding Scandinavian and German firms. Foundation-owned Firms versus Family Firms.

This panel displays the results of a multivariate analysis that tests the robustness of the findings by excluding firms incorporated in Scandinavia and Germany from the sample. The dependent variables used are the ESG, environmental (ENV), social (SOC), and governance (GOV) variables provided by Refinitiv over the sample period, while the control group comprises family firms. The control variables Leverage, ROA, Tobin's Q, Firm Size (natural logarithm of total assets), and Cash Holdings are included, as well as industry, country, and year fixed effects. Firm-clustered standard errors are provided in parentheses. The definitions for variables can be found in Table A1. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation	21.97*** (6.876)	26.59*** (8.972)	24.43*** (7.280)	13.33** (6.334)	13.82*** (4.083)	19.08*** (6.110)	15.16*** (3.906)	5.721 (5.091)
Firm Size					12.41*** (1.409)	14.59*** (2.065)	14.50*** (1.549)	7.184*** (1.696)
ROA					17.25 (20.40)	60.69** (26.64)	25.75 (23.02)	-24.59 (18.40)
Leverage					7.170 (9.042)	-9.075 (14.23)	3.160 (10.51)	27.25*** (9.518)
Tobin's Q					1.641 (1.469)	1.524 (1.973)	1.432 (1.707)	1.439 (1.467)
Cash Holdings					-16.04 (15.64)	-11.72 (15.45)	-11.51 (19.57)	-27.01* (14.81)
Constant	15.57 (15.06)	12.97 (20.70)	7.378 (17.29)	28.93** (12.37)	-65.44*** (14.16)	-84.27*** (19.25)	-87.40*** (15.41)	-17.45 (16.61)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	637	637	637	637	615	615	615	615
R-squared	0.496	0.512	0.488	0.412	0.709	0.672	0.681	0.547

Table A9. Generalized least squares (GLS) regression estimates: Foundation-owned Firms versus Family Firms

This table shows the results from the generalized least squares (GLS) regressions on the matched sample comparing the sustainability performance of foundation-owned companies. The dependent variables are the ESG score provided by Refinitiv as well as the respective category scores (Environmental, Social, Governance). Control variables are Leverage, ROA, Tobin's Q, Firm Size (natural logarithm of total assets), and Cash Holdings. We include industry, country and year fixed effects. Variable definitions are provided in Table A1. Standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation	11.85** (5.279)	10.84 (6.682)	14.57*** (5.211)	8.670 (5.549)	10.72*** (4.122)	9.754* (5.683)	12.81*** (3.708)	7.610 (5.064)
Firm Size					6.944*** (1.579)	8.101*** (2.121)	9.310*** (1.841)	3.509** (1.594)
ROA					6.421 (8.822)	2.660 (12.54)	17.31 (11.37)	-6.897 (11.31)
Leverage					-10.90 (7.777)	-12.01 (11.01)	-9.460 (10.19)	-10.97 (10.62)
Tobin's Q					-0.752 (0.720)	-0.590 (1.107)	-0.872 (0.926)	-0.861 (0.996)
Cash Holdings					-0.565 (8.689)	-5.109 (13.15)	3.215 (11.35)	-6.034 (9.561)
Constant	5.434 (7.906)	2.888 (11.22)	1.212 (8.640)	12.13 (8.315)	-41.00*** (13.98)	-51.45*** (19.12)	-61.09*** (16.06)	-10.94 (14.54)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	1,101	1,101	1,101	1,101	1,033	1,033	1,033	1,033

Table A10. Difference-in-differences analyses on ESG Performance (Foundation-owned Firms versus Investor-owned Firms)

Notes. This table examines FOF's sustainability engagements around the global financial crisis regressing ESG performance (dependent variable) on foundation ownership along with other control variables (but we omit the coefficients for brevity). The control group consists of investor-owned firms matched by industry and firm size. Firm controls include Leverage, profitability, ROA, Firm Size (natural logarithm of total assets) and Cash Holdings. We also include year, industry and country fixed effects. The sample period is 2006-2012 (two years before and four after the crisis). Variable definitions are provided in Table A1. Robust standard errors (in parentheses) are clustered at the firm-level. *, **, and *** denotes significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV
Foundation \times Post	5.645** (2.799)	8.169** (3.622)	7.540* (3.622)	0.886 (3.622)
Firm Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm
Observations	370	370	370	370

Table A11. Instrumental Variable Regressions: ESG and Foundation Ownership (Foundation-owned Firms versus Investor-owned Firms).

Table A11 displays the results of instrumental variable regressions. The control group consists of investor-owned firms. The first column represents the outcome of the first-stage regression, where the instruments used are survey-based measures of trust derived from the World Value Survey (WVS). Specifically, question a165 of the survey asks participants to rate their trust towards others, assigning a numerical score ranging from one to three. A score of 1 signifies "Cannot be trusted," 2 represents "Depends or don't know," and 3 indicates "Can be trusted." The "High Trust" variable in the table indicates whether a country has above-median trust for each year, while the variable "WVS Trust" represents the average response at the country level. Columns (2) to (5) report the second-stage regression results for ESG, ENV, SOC and GOV. The definitions for the variables can be found in Table A1. Robust standard errors are clustered at the firm level. *, **, *** denote statistical significance at the 10, 5, and 1 percent significance level respectively.

	(1)	(2)	(3)	(4)	(5)
	First-stage	Second-	Second-	Second-	Second-
Dependent Variable:	Foundation	Stage ESG	Stage ENV	Stage SOC	Stage GOV
High Trust	3.492*** (0.582)				
WVS Trust	-0.0183 (0.0229)				
Predicted Foundation		12.32*** (4.427)	16.27*** (5.192)	20.76*** (6.029)	-0.193 (5.434)
Firm Size	0.384*** (0.137)	9.115*** (0.844)	12.94*** (1.373)	9.667*** (1.276)	5.052*** (1.218)
ROA	7.238*** (2.518)	3.562 (5.606)	0.777 (8.231)	-4.413 (8.139)	11.40* (6.521)
Leverage	1.265 (0.992)	6.728 (5.786)	13.83 (9.645)	9.465 (7.511)	-0.565 (7.376)
Tobin's Q	0.124 (0.117)	0.129 (0.417)	-0.0507 (0.642)	0.645 (0.569)	-0.704 (0.617)
Cash Holdings	-3.543* (1.970)	-4.734 (7.967)	-8.889 (12.70)	0.867 (11.77)	-2.144 (11.94)
Regulatory Quality	-0.0450*** (0.0167)	0.0364 (0.0792)	0.0531 (0.100)	0.0863 (0.116)	-0.0480 (0.0991)
Constant	-3.060 (1.911)	-38.09*** (12.66)	-76.18*** (19.50)	-50.13*** (17.99)	11.55 (15.72)
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Hansen's J Test		1.34	4.22	1.52	0.02
P-Value		0.2473	0.0400	0.2182	0.8746
Observations	834	1,021	1,021	1,021	1,021
R-squared		0.664	0.649	0.598	0.326

Appendix A12. Information about hand-collection

Data collection process:

- (1) We gather information on ownership from various sources, including annual reports, corporate websites, proxy statements, and Bureau van Dijk Orbis. We defined a company as foundation-owned if it is owned by a registered foundation or a functionally equivalent legal entity such as an irrevocable trust.
- (2) We start by collecting ownership information from the BvD Orbis database, which identifies the ultimate owner by looking for the shareholder with the highest ownership stake. We set the global ultimate owner (GUO) type as "Foundation, Research Institute". Only foundations or irrevocable trusts are considered, and companies owned by a "Research Institute" are not included.
- (3) We manually examine annual reports, proxy statements, regulatory documents and media reports to validate whether a foundation serves as the ultimate owner of a specific company.
- (4) We exclude companies owned by foundations with government-linked activities as we define enterprise foundations as private, non-governmental institutions, in line with Thomsen et al. (2018), as well as financial firms (SIC codes from 6000 to 6999) and utility firms (SIC codes from 4900 to 4999). We also exclude companies with less than 10% of the votes and foundation-owned companies from offshore jurisdictions.
- (5) We collect additional information on ownership stakes and foundation purposes from regulatory filings (e.g., annual reports and SEC filings) and websites including the company's websites, the foundation's websites and stock exchange information websites such as Bloomberg.
- (6) We create a control group for foundation-owned companies by matching them with family-owned or investor-owned companies in the same industry and similar firm size.
- (7) We create a binary variable called "foundation" which takes a value of one if a company is foundation-owned and zero otherwise.
- (8) In the scope of our analysis, we create a different comparison group using propensity score matching (PSM) by selecting potential matches from the Refinitiv Global Equity Index, which includes almost all investable market capitalization. However, since our access is restricted to the largest 5000 companies based on market capitalization, we choose potential matches from this group of firms. In Table 3, we apply propensity score matching with replacement to find matching companies for each foundation-owned company.

Appendix A13. Foundation Ownership and Financial Performance

Notes. The table presents a comparison of the average financial performance, measured by *ROA*, *growth*, and *Tobin's Q*, among foundation-owned companies, family-owned companies, and companies with dispersed ownership. To mitigate the effect of extreme values, the sales growth variable has been winsorized at the upper and lower one percentile. The sample used is the same as described in Table 1, and variable definitions can be found in Table A1.

	Foundation Ownership	Family Ownership	Investor Ownership
Return on Assets	13.90%	12.70%	10.70%
Sales Growth	3.80%	6.60%	4.40%
Tobin's Q	1.78	1.59	1.56

Table A14. Alternative definition of Foundation-owned Firms (minimum control threshold of 20% of the votes)

Note: This panel presents the results of OLS estimates with firm-clustered standard errors reported in parentheses. The dependent variables are the ESG, environmental (ENV), social (SOC) and governance (GOV) variables provided by Refinitiv over the sample period. The control group consists of family-owned firms. We excluded 360 firm-year observations as they did not satisfy our criteria, which included a minimum threshold of 20% votes. Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* (*natural logarithm of total assets*) and *Cash Holdings*. We include industry (two-digit SIC codes), country and year fixed effects. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively.

Dependent Variable:	(1) ESG	(2) ENV	(3) SOC	(4) GOV	(5) ESG	(6) ENV	(7) SOC	(8) GOV
Foundation	12.00* (6.169)	15.26* (8.052)	15.17** (6.375)	3.155 (5.842)	7.546 (4.808)	11.73* (6.728)	10.89** (4.730)	-2.839 (4.951)
Firm Size					10.22*** (1.220)	11.40*** (1.634)	10.87*** (1.369)	8.606*** (1.448)
ROA					21.28 (16.72)	41.84* (24.49)	30.51 (19.44)	-4.978 (15.70)
Leverage					-2.694 (8.855)	-6.632 (12.97)	-3.818 (9.338)	1.485 (11.39)
Tobin's Q					1.022 (1.019)	1.165 (1.452)	1.060 (1.249)	0.242 (1.103)
Cash Holdings					-25.38** (11.10)	-36.61*** (13.53)	-23.95* (13.29)	-13.61 (13.74)
Constant	11.37 (7.718)	10.89 (11.69)	3.625 (9.068)	21.82** (8.972)	-65.82*** (13.66)	-73.39*** (17.31)	-75.27*** (14.63)	-48.50*** (16.98)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	983	983	983	983	919	919	919	919
R-squared	0.420	0.454	0.460	0.298	0.615	0.618	0.611	0.424

Table A15. Firm Fixed Effects Models

Note: In this panel, we estimate the foundation ownership-ESG relation using the fixed effects estimator. Using data from Capital IQ, we replace the binary variable *Foundation* with the variable *Foundation_held*, which represents the percentage of shares held by a charitable foundation. Because *Foundation_held* is a continuous variable with temporal variation, we can include firm fixed effects. The dependent variables are the ESG disclosure scores obtained from Bloomberg (Models (1) to (5)) and the *Environmental Pillar* obtained from MSCI (Model 6). Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* (natural logarithm of total assets) and *Cash Holdings*. To account for variation at the country level, we incorporate the World Governance Indicators' *Regulatory Quality* variable into our analysis. Models (2) to (6) include firm and year fixed effects. The control group consists of non-foundation-owned firms (family- and investor-owned firms). The sample period is 2006-2019. Variable Definitions are provided in Table A1. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level.

Dependent Variable:	(1) ESG (Bloomberg)	(2) ESG (Bloomberg)	(3) ENV (Bloomberg)	(4) SOC (Bloomberg)	(5) GOV (Bloomberg)	(6) ENV (MSCI)
Foundation_held	0.241** (0.107)	0.170*** (0.0651)	0.266*** (0.0926)	-0.0498 (0.0811)	0.106** (0.0524)	0.0231** (0.00969)
Firm Size	4.246*** (0.772)	-1.543 (1.370)	-3.258 (2.131)	1.180 (1.796)	0.0942 (1.103)	-0.540* (0.312)
ROA	11.46 (7.185)	-0.0476 (5.335)	58.83*** (16.40)	0.354 (7.916)	-1.851 (4.293)	1.267 (0.928)
Leverage	-11.23 (8.949)	10.60* (6.221)	33.20*** (10.31)	-2.407 (8.546)	5.886 (5.007)	-1.792 (1.165)
Tobin's Q	0.258 (0.629)	-0.185 (0.399)	-1.477 (1.110)	-0.311 (0.595)	-0.0300 (0.321)	-0.0352 (0.0675)
Cash Holdings	0.0544 (11.51)	-8.151 (8.375)	-16.22 (15.16)	-21.71* (12.41)	-5.892 (6.740)	-3.255** (1.402)
Regulatory Quality	-0.214** (0.0810)	0.143 (0.155)	-0.166 (0.234)	0.289 (0.199)	-0.156 (0.125)	0.00898 (0.0316)
Constant	6.907 (11.67)	20.83 (17.44)	41.47 (26.68)	-6.960 (22.37)	59.72*** (14.03)	8.034** (3.851)
Firm FE	No	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	397	397	333	371	397	272
R-squared	0.383	0.867	0.819	0.828	0.798	0.832

Table A16. Social, Environmental and/or Scientific Goals Classification Examples

Note: Table A16 gives some coding examples illustrating our classification of foundation purposes into the categories of Social, Environmental and/or Scientific Goals.

Firm	Foundation	Foundation Purpose	Areas of Foundation Work	Source	Classification	Grants disbursed
Novo Nordisk	Novo Nordisk Foundation	“Our objectives are: 1) to provide a stable basis for the commercial and research activities of the companies in the Novo Group (Novo Nordisk A/S and Novozymes A/S); and 2) to support scientific, humanitarian and social causes.”	“The foundation will support projects in biomedical science, the natural and technical sciences, biotechnology, sustainability, humanities, interdisciplinary research, diabetes hospitals, innovation, education, and social and humanitarian causes.”	Novo Nordisk Foundation website	Social Purpose, Scientific Purpose, Environmental Purpose	€1.84 billion (2021)
DFDS	Lauritzen Foundation	“We want to secure that more children and youth are able to become included and contributing citizens in Denmark.”	“Lauritzen Fonden is a commercial foundation supporting non-profit activities in particular aimed at vulnerable children and young people.”	Lauritzen Foundation website	Social Purpose	€4.67 million (2020)
Hershey Company	Milton Hershey School Trust	“A non-profit foundation dedicated to cultural and educational enrichment.”	“Milton Hershey School nurtures and educates children in need.”	Milton Hershey School website	Social Purpose	€221.03 million (2017)
Tata Consultancy Services	Tata Trusts	“...seek to empower, enable and transform communities across India, while improving the quality of life of the tribal, underserved, underprivileged, backward and minority sections, and laying special emphasis on women and children.”	The trust supports various initiatives and partnerships in areas such as health, nutrition, education, water and sanitation, livelihoods, social justice and inclusion, skilling, migration and urbanisation, environment, digital literacy, sports, arts, craft and culture, and disaster management	Tata Trusts website	Social Purpose, Scientific Purpose, Environmental Purpose	€105.51 million (2021)
Bosch Limited	Robert Bosch Foundation	The Foundation exclusively and directly serves charitable purposes including social, scientific and environmental goals.	The Foundation supports social welfare, science and research, and environmental protection among other causes.	Robert Bosch Foundation website	Social Purpose, Scientific Purpose, Environmental Purpose	€ 49.81 million (2020)

Table A17. Do Enterprise Foundations Walk the Talk?

Note: In this table, we examine the alignment between foundation-owned companies' stated purposes and their actual allocation of grants towards social and environmental causes. *SOC_grants* represents the percentage of grants dedicated to social causes, and *ENV_grants* represents the percentage of grants dedicated to environmental causes. *Environmental Purpose* is indicated by a dummy variable with a value of one when the foundation's objective is to achieve environmental goals, such as addressing climate change or preserving nature. Similarly, *Social Purpose* is indicated by a dummy variable with a value of one when the foundation's objective is to achieve social goals. Control variables are *Leverage*, *ROA*, *Tobin's Q*, *Firm Size* (natural logarithm of total assets), and *Cash Holdings*. We include industry (two-digit SIC codes), country and year fixed effects. Variable Definitions are provided in Table A1. The standard errors are clustered at the firm level. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively.

Dependent Variable:	(1) SOC_grants	(2) ENV_grants	(3) SOC_grants	(4) ENV_grants
Social Purpose	0.423*** (0.0821)		0.419*** (0.0790)	
Environmental Purpose		0.0997*** (0.0351)		0.104*** (0.0376)
Firm Controls	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Clustered by	Firm	Firm	Firm	Firm
Observations	973	973	825	825
R-squared	0.914	0.579	0.912	0.589

Table A18. Sample Selection

Note: In Model (1), we use a Probit model to estimate the likelihood of reporting ESG data based on: (1) ESG Disclosure Requirements, (2) our *Foundation* variable, and (3) the same set of control variables as in previous models. The Probit model is the first stage in the sample selection model proposed by Heckman (1979), with the second-stage estimation outcomes presented in Models (2) to (5). The second-stage equation includes the self-selection parameter Lambda (Inverse Mills Ratio), while excluding our instrument (*Mandatory ESG Disclosure*). *Mandatory ESG Disclosure* is represented by a dummy variable that takes a value of one when a specific country adopts mandatory ESG reporting disclosure requirements, based on the list provided by Christensen et al. (2021). We include industry (two-digit SIC codes) and year fixed effects. We exclude those industry and year dummies that completely determine the propensity to undertake ESG reporting. We include a country-level covariate (*Regulatory Quality*) in Models 2 to 5 instead of country fixed effects due to the country level nature of our instrument. Variable Definitions are provided in Table A1. The standard errors are clustered at the firm level. *, **, *** indicate statistical significance at the 10, 5, and 1 percent significance level respectively.

	First-stage Probit	Second-stage Pooled OLS			
Dependent Variable:	(1) Probability of Reporting ESG Data	(2) ESG	(3) ENV	(4) SOC	(5) GOV
Foundation	0.105 (0.177)	6.556*** (2.177)	7.001** (2.773)	11.16*** (2.937)	0.326 (2.470)
Mandatory ESG Disclosure	0.254* (0.132)				
Firm Size	0.709*** (0.0524)	4.412** (2.159)	5.790** (2.742)	5.566* (3.123)	3.191 (2.120)
ROA	1.286 (1.185)	-4.294 (8.956)	-1.539 (13.18)	-5.179 (12.74)	-3.371 (7.466)
Leverage	-0.651* (0.388)	-2.243 (6.921)	-9.505 (10.85)	-0.980 (7.787)	2.536 (7.281)
Tobin's Q	0.000549 (0.000536)	1.388*** (0.400)	1.426** (0.612)	2.066*** (0.512)	0.0758 (0.457)
Cash Holdings	0.609 (0.590)	-28.93*** (7.830)	-42.05*** (11.71)	-29.14*** (10.69)	-10.88 (9.532)
Inverse Mills		-14.80*** (5.687)	-19.08** (7.578)	-12.31 (7.947)	-8.949 (6.116)
Constant	-7.265*** (0.663)	2.087 (23.63)	-20.04 (31.46)	-20.60 (33.52)	48.09** (23.00)
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Observations	5,011	1,743	1,743	1,743	1,743
R-squared		0.545	0.524	0.487	0.251

Table A19. Emission Reduction by Foundation-owned Companies around the 2015 Paris Agreement

Notes. We examine the emission reductions and ESG activities undertaken by foundation-owned companies around the adoption of the Paris Agreement by regressing *Emission Reduction* and *ESG* on the interaction term *Foundation* \times *Post-2015* along with other control variables (but we omit the coefficients for brevity). The control group is comprised of non-foundation-owned firms. *Post-2015* is a binary indicator that takes the value of one for the years 2016 to 2019, taking into account the Paris Agreement effects, and zero for the preceding years. Firm controls include *Leverage*, *ROA*, *Firm Size* (*natural logarithm of total assets*) and *Cash Holdings*. We also include industry fixed-effects and a country-level covariate (*Regulatory Quality*). Year fixed effects are also accounted for in Models (2) and (4). *Emission Reduction* measures a company's dedication and efficacy in mitigating environmental emissions during its production and operational activities. The analysis covers the period from 2011 to 2019, spanning four years before and after the Paris Agreement. Table A1 provides definitions for the variables. Robust standard errors (in parentheses) are clustered at the firm-level. *, **, and *** denotes significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable:	(1) Emission Reduction	(2) Emission Reduction	(3) ESG	(4) ESG
Foundation \times Post-2015	11.02** (5.072)	11.06** (5.156)	5.221* (2.721)	4.892* (2.678)
Firm Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes
Clustered by	Firm	Firm	Firm	Firm
Observations	504	504	607	607
R-squared	0.450	0.453	0.570	0.582