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ESG performance, a more intricate measure than meets the eye

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Abstract

This study shows that ESG performance is not as simplistic as academics and practitioners sometimes make it out to be. ESG performance is too intricate to capture into a single measure. Using a large sample of US listed firms from 2003-2018 shows that overall ESG performance positively influences short-(ROA) and long-term (Tobin's Q) financial performance. Against popular belief, ESG performance does not only create value if it is a competitive advantage of sorts. Nevertheless, the positive effect on financial performance is partially explained by an increase in industry-adjusted demand and labor productivity for some ESG domains. ESG performance is also subject to changing perceptions. Using a Difference-in-Difference approach around the Paris Climate Agreement shows that investors revalue specific ESG domains. Some revaluations are in line with short-term financial performance differences. However, investors also value ESG strengths more after the Agreement without any support from short-term financial performance. Moreover, ESG performance can be an objective of directors. Diverse (not only gender) boards are (in part) appointed to extract financial performance more effectively from ESG performance. Gender-diverse boards seem to be more effective in diminishing detrimental effects of environment concerns. In general, the assumption to only use an overall ESG measure based on equal weighting leads to inaccurate conclusions. Studies should either construct a weighting function which accurately represents societies' perceptions or use at least the more detailed ESG domain analysis.

Keywords: ESG Performance, Corporate Social Responsibility, Financial Performance, Paris Climate Agreement, Board Diversity, Gender Diversity

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Part I: Introduction

Traditionally the focus of economics has been on the monetary side of the economy. In most economics and finance courses taught by universities, the focus lays mostly on the monetary aspect of the economy and its partaking firms. However, the non-monetary effects of companies' operations remains an underexposed topic. In most instances, effects of firms on other stakeholders are taught as externalities. It is exactly the connotation "externality" which demonstrates the need to rethink how we define the effects of companies' operations on other stakeholders. As a result, Environmental, Social, and Corporate Governance (ESG) performance has been widely used to represent in one single comprehensible measure the societal impact of economics. However, is ESG performance as simplistic as academics and practitioners sometimes make it out to be?

Literature on ESG performance consists mainly of two strands. The first strand looks at the conditions which influence ESG performance (e.g. profitability, financial constraints, agency costs, etc.) and the second examines the influence of ESG performance on financial performance. However, to date no studies have analyzed how exactly ESG performance influences financial performance. Understanding the channels and reasons is important, as it can explain why certain firms perform financially better than their, otherwise seemingly equal, counterparts. Secondly, demand for ESG ratings is increasing by retail, private, fund and institutional investors (Cellier and Chollet, 2012), making it imperative to understand how ESG performance can be beneficial for the future of companies. Thirdly, understanding the channels and reasons might also provide evidence on the much-needed underlying causes of the influence of (gender) diversity in boardrooms on financial performance. As more (gender) diversity might be due to different director objectives or result in more diverse perspectives in the decision-making process.

This paper therefore questions, using a large sample of US listed firms from 2003 to 2018, through which channels does ESG performance influence financial performance? Secondly, does an exogenous shock initiated by society (such as the Paris Climate Agreement) cause differences in short-(ROA) and long-term (Tobin's Q) financial performance? Finally, does (gender) diversity in boardrooms strengthen or diminish the influence of ESG performance on financial performance?

Most studies find that there is a positive effect (e.g. Konar & Cohen, 2010; Waddock & Graves, 1997; Hill & Keim, 2001; Luo & Bhattacharya, 2006; Bird et al., 2007; Ferrell et al., 2016; Lins et al., 2017; Buchanan et al., 2018) of ESG performance on financial performance. On the other hand, some studies find no relation or even a negative relation (e.g. McWilliams & Siegel, 2000; Marsat & Williams, 2011; Lima Crisóstomo et al., 2011).

This absence of consensus on the sign of the relation is mostly due to studies that refrain from moving beyond correlations. Therefore, several econometric specifications are used in this paper. Firstly, models are estimated over both an unmatched and matched sample. Matching high with low ESG firms allows to control for unobservable heterogeneity between firms which otherwise might bias

found effects. Secondly, models are estimated with standard OLS, with a lagged dependent variable and firm fixed effects (to control for, in particular, reverse causality) and through an Instrumental Variable (IV) regression. The results show that the total effect of overall ESG performance on both short- (ROA) and long-term (Tobin's Q) performance is significantly positive and economically large. The results are consistent for all econometric specifications.

However, an important assumption that most studies overlook is the weighting mechanism to construct an overall ESG performance measure. Most studies construct overall ESG performance on the premise that all ESG domains (Environmental, Community, Human rights, Employee Relations, Diversity, Product and Corporate Governance) are equally important. Yet there is no reason to assume that society views each ESG domain, let alone variable, as equally important. Therefore, all models are also performed with a second overall ESG measure constructed with yearly ESG domain factor loadings. The results are indeed different between the two overall ESG measures throughout this paper.

To provide a deeper understanding of the intricacy of ESG performance, analysis is also performed on a domain strength and concern level. Some domains (e.g. Environment, Community, Product and Corporate Governance) have no consistent significant effect on short- and long-term performance, implying that costs are offset by benefits in these domains. However, other domains (Human Rights, Employee Relations and Diversity) do have significant effects on short- and/or long-term performance. This contradicts the results from Hillman and Keim (2001) and Cavaco and Crifo (2014) who argue that value is only created by industry or firm specific domains. If anything, whether an ESG domain is closely related to the firm or industry is irrelevant.

To gain a deeper understanding on how ESG performance truly creates value, two possible channels are analyzed. The presented results show that overall (factor) ESG performance does not significantly influence industry-adjusted demand and labor productivity. Consumers and employees thus do not act on the overall ESG performance of a firm. However, consumers and employees do act on more specific aspects of ESG performance. Human Rights strengths result in an increased industry-adjusted demand whereas firms with Human Rights concerns experience a decrease in industry-adjusted demand. This mediation effect amounts up to -12% (-7.5%) for strengths and to -4% (-31%) for concerns of the total effect on Tobin's Q (ROA). Moreover, industry-adjusted labor productivity also increases (decreases) for Human Rights strengths (concerns), with sizable effects up to -25% of the total effect. This also implies that there are other channels at play with a negative mediation effect on financial performance, as both industry-adjusted demand and labor productivity show sizeable and significant positive effects, while the total effects on Tobin's Q and ROA are the opposite (e.g. the total effect of Human Rights strength is significantly negative).

Furthermore, Product strengths result in significantly lower industry-adjusted demand and labor productivity, resulting in lower short- and long-term performance. These negative mediation effects could be due to an increase in required resources, such as labor input. More required resources might induce a higher sales price, which would explain the negative partial mediation effect of extra demand.

ESG performance also has different short- and long-term performance implications over time. The Paris Climate Agreement is arguably one of the most tangible events of changing norms and beliefs in societies. The Paris Agreement is particularly interesting as an exogenous shock as it has no direct effect on the economy, unlike an economic crisis. The different nature of the Paris Agreement indeed results in different differences compared to the latest economic crisis.

Investors have not radically changed their beliefs or preferences on overall ESG performance but on specific ESG domains since the Paris Agreement. Since the Paris Agreement mostly relates to environmental matters, possible effects should be more pronounced for the Environmental domain. Surprisingly, investors value Environmental strengths higher since the Agreement, but do not value concerns more negatively. Strengths also increase ROA, but concerns do not decrease ROA more since the Agreement. So, investors seem to merely price in monetary gains from Environmental strengths without revaluing the Environmental domain based on their own preferences (willingness to pay a premium) or expectations about future abatement costs. Except for the Human Rights and Diversity concerns, investors only change their valuations of strengths but not concerns. Suggesting investors might care more about the positive image strengths can bring than the negative effects from concerns.

Interestingly, investors value both Human Rights strengths and concerns more negatively in the years after the Agreement. However, Human Right concerns also improve short-term performance in the years after the Paris Agreement. Investors recognize both the positive effect of Human Right concerns on ROA and the simultaneous decrease of industry-adjusted sales and labor productivity, which could be detrimental for long-term performance. Investors, thus, might prefer firms with a neutral Human Rights score (no strengths and concerns). By extension, Diversity concerns have a higher long-term value in the years after the Agreement without any short-term effects. This raises the question if the found effects in academic literature on (gender) diversity are merely due to the excessive public debate instead of the core of the problem (insufficient inclusion of minorities).

Some studies argue that more gender-diverse boards leads to over-monitoring, which decreases financial performance (e.g. Adams & Ferreira, 2009). Others argue that it leads to more effective monitoring (e.g. Terjesen et al., 2016) or that there is no gender effect since attributes of directors create value (e.g. Bennouri et al., 2018). However, only a few studies analyze whether (gender, resource, etc.) diverse boards have different objectives (e.g. ESG performance) compared to uniform boards. Liu (2018) is one of the exceptions who finds that more gender-diverse boards results in significantly fewer environmental lawsuits. As such, the positive effect of females on financial performance could be due to the specific objectives' that directors have.

The presented results further underline the importance of the (incorrect) assumption of using an equal weights ESG measure. There is no similarity on both short- and long-term performance between the moderating effects of equal weights and factor weights ESG measures. However, both ESG measures do report significant moderating effects, indicating that diverse boards do influence the value of ESG performance but likely on a more detailed level.

In firms where more directors have attendance problems (attend less than 75% of the meetings) total factor strengths are significantly valued lower by shareholders. Strengths in such firms might be the result of not enough monitoring of directors and not because they create value. However, strengths in firms with more attendance problems do not significantly affect short-term financial performance. Investors might thus have the wrong impression of strengths in those firms.

Furthermore, age-diverse boards increase the effects of strengths on short- and long-term performance. Age-diverse boards could result in more diverse or effective ways to capture benefits from ESG strengths. Moreover, concerns also more negatively impact short- and long-term performance in firms with a more age-diverse board. Since other moderating effects are inconsistent for total factor strengths and concerns, they might only be of significant influence for specific ESG domains.

Environmental concerns in firms with gender-diverse boards results in significantly lower ROA without an effect on long-term performance. These firms are likely acting against Environmental concerns, which induces incidental short-term costs/losses, supporting the findings from Liu (2018). It is also evidence that more (gender) diverse boards have different objectives that (partially) explain the documented effects of gender diversity on financial performance (e.g. Adams & Ferreira, 2009; Ahern & Dittmar, 2012; Terjesen et al., 2016; Bennouri et al., 2018; Bennedsen et al., 2019).

Furthermore, there is no consistent evidence that any sort of board diversity moderates the effects of the Community, Human Rights (concerns), Employee Relations, Diversity and Product domains (the Social factor of ESG performance) on short- and long-term performance. This raises the question: if having Social concerns is not dependent on the men and women in charge then why do some firms still have concerns? Especially since the financial implications of having Social concerns have increased after the Paris Agreement. Furthermore, against expectation there is no moderating effect on any domain from a more independent board. ESG performance is valued irrespective of who sets out the firms' future (e.g. more independent directors) but on why and how ESG performance creates value.

Overall, the results show that ESG performance is a more intricate performance measure than most studies have assumed. ESG performance is imperative for firms to continue to be profitable, especially considering the changing perceptions of society, investors, and firm management.

The structure of the paper is as follows. First, a deeper discussion of what ESG performance is, related literature and hypothesis building are set out in Section 2. In Section 3, data and methodology are discussed along with descriptive statistics of the data sample. Section 4 sets out in consecutive order: the total effect of ESG performance on financial performance; through which channels ESG performance creates financial performance; how perceptions of ESG performance change; and if (gender) diverse boards moderate the effect of ESG performance on financial performance. Finally, Section 5 concludes this paper.

Part II: Literature Review and Hypotheses building

2.1 What constitutes ESG performance

It is imperative to demarcate the concept of ESG performance as it is not as widely known as other financial performance measures. ESG performance is a performance measure that evaluates the non-monetary effects and qualities of firms' operations. In essence, it is a form of checks and balances whereby society weighs the actions firms undertake to generate profits. ESG performance indicates how firms perform on three factors: Environmental, Social and Governance. These three main factors are then further divided into domains by rating agencies to increase comprehensibility. MSCI for example, divides the Social factor into Community, Human Rights, Employee Relations, Diversity and Product domains. Whereas other rating agencies might opt to divide the environmental factor into for example, Waste, Chemicals, and Emissions. ESG performance measures are generally constructed in three steps.

Rating agencies first collect data on how the firm is operating (the objective characteristics). In this first step, agencies collect data on, i.a., the use of child labor, usage of harmful chemicals, how much CO₂ they emission, if they discriminate genders, etc. In the second step, these objective characteristics are weighted against society's norms and values. Often, variables are divided into strengths and concerns. Most of society views child labor as something bad. Firms that use child labor therefore have a concern score for the use of child labor. In the last step, the transformed variables are used to construct an overall ESG performance measure. Rating agencies use a "proprietary" rating model for this, claiming to use the norms and values of society as weights. In reality, the construction of an overall ESG measure requires making decisions about the relative importance of the various measured components. For some, Environmental effects are more important than Privacy concerns and vice versa. This makes it difficult to estimate a true rating model, which is why there are differences in overall ESG performance scores between agencies.

ESG performance is also a dynamic performance measure. Most components of ESG performance are not as clear-cut as child labor. For instance, Environmental effects were less important 50 years ago than nowadays. Even today, there are groups in society who believe that climate change is not caused by the acts of humans. Furthermore, creating consensus on a topic like racism is not straightforward, either. As can be seen from the recent Black Lives Matter protests, society and stakeholders clearly do not change their norms & values and perspectives overnight. Instead, the views of society are constantly changing. Therefore, criteria for good or bad ESG performance of firms changes at least yearly. For example, the same level of CO₂ emissions in 2014 could be viewed as good ESG performance whereas in 2015 it may be marked as bad ESG performance.

Moreover, ESG performance not only changes through changing views of society but also by firms themselves. Firms can do this through two different mechanisms. The most eye-catching mechanism is the implementation of the so-called Corporate Social Responsibility (CSR) programs. CSR programs are mostly a reaction to a sudden apparent problem. For example, employees are coming

forward in the media about gender discrimination in promotions, or a new water waste law has been passed. An often-used way to deal with such problems is to announce a CSR program to fix the problem. On the other hand, CSR programs are also sometimes initiated without an (sudden) apparent problem. Some firms tend to give back to their local community by organizing volunteer programs or sponsor an event at a local primary school.

However, CSR programs are not the only way firms influence their ESG performance. ESG performance effects can also be included in the normal decision-making process. A manufacturer might need to replace its production process with new equipment and has two identical options that only differ in two aspects. The second option would be more expensive but also more environmentally friendly. A firm that does not incorporate ESG performance effects would choose the cheaper option but a firm that does (for various reasons) might find option two the better one.

Therefore, ESG performance is in its core a more intricate performance measure than conventional monetary performance measures like EBITDA or net income. The dynamic and influential nature of ESG performance is also noticeable in the literature on ESG (and CSR) performance.

2.1.1 Stakeholder initiated theory

In the most traditional sense firms have a fiduciary relationship with only their shareholders (Goodpaster, 1991). As a result, management acts in the best interest, mostly profit maximization, of its shareholders. CSR in turn is a form of a change in the fiduciary relationship between stakeholders and management, thus moving away from only acting in the best interest of shareholders (Goodpaster, 1991). Thereby, any change in ESG performance is dependent on what stakeholders' request from firms. As such if stakeholders would request better environmental performance the firm increases their environmental performance. The central idea in Goodpaster's theory is that firms' management actions are dependent on the type of fiduciary relationship and interests of its shareholders and/or stakeholders. Therefore, ESG performance does not depend on any type of firm characteristics besides characteristics proxying for how adequately management fulfills the interests of shareholders/stakeholders.

Bénabou and Tirole (2010) support this theory by advocating that good ESG performance can also generate extra profitability (Win-Win). Moreover, ESG performance can also be a form of delegated philanthropy. In this second vision stakeholders request firms to engage in philanthropy on their behalf. In some instances, stakeholders who cannot efficiently or effectively offset the negative ESG effects themselves request firms to do this on their behalf. In return companies request a small amount of compensation. Shell customers, for example, have an option to pay extra to offset CO₂ emissions from buying gas or petrol. As a result, firms can at least offset additional costs from ESG/CSR in both visions from Bénabou and Tirole (2010). Therefore, firm characteristics should have no influence on the ESG performance of a firm.

2.1.2 Shareholder agency cost theory

There is also evidence that firm and board characteristics do influence ESG performance. Hong et al. (2015) show that firms in financially good shape tend to have better overall ESG performance. However, Hong et al. (2015) do not analyze if the found relationship holds for all factors or domains of ESG. Naturally, financial constraints mostly affect changes in ESG performance that bear (relatively) high costs. Promoting workforce diversity (minorities, gender, ethnicity, etc.) does not nearly cost the same, for instance, as converting operations for a heavy polluter to become climate friendly.

Furthermore, as Bénabou and Tirole (2010) also advocate, ‘Insider-initiated corporate philanthropy’ CSR is implemented based on personal desires and therefore viewed as the dark side of CSR. In this overinvestment or shareholder agency cost theory, firm and board characteristics do influence ESG performance. Among others, Barnea and Rubin, 2010; Harjoto and Jo, 2011; Krüger, 2015 all find that less alignment between management and shareholders results in overinvestment. Barnea and Rubin (2010) and Harjoto and Jo (2011) find that when agency costs between management and shareholders increase (lower insider ownership, lower leverage, higher liquidity, and free cash flow) management overinvests in CSR programs. Krüger (2015) further supports the overinvestment theory by showing that stock returns to CSR announcements are negative for firms with high agency costs (high leverage and low liquidity), whereas the announcement return is positive in low agency cost firms. When management and shareholders are more aligned, insiders take the costs of implementing CSR into account more, which lowers their incentive to implement CSR.

2.1.3 Perspective agency cost theory

There is a third strand in academic literature that is best characterized as the perspective agency costs theory. In this theory, board characteristics have a significant influence on ESG performance. The central idea of this theory is that boards with a low diversity (in terms of gender, nationality, ethnicity, and resources) are not able to incorporate all perspectives and factors in the decision-making process. Bear et al. (2010) find that an increase in the number of females on boards is related with better CSR performance. Furthermore, Liu (2018) finds that more gender-diverse boards results in significantly fewer environmental lawsuits. Interestingly, Bear et al. (2010) find no supporting evidence that a greater diversity in resources on the board leads to better CSR performance. Harjoto et al. (2015), however, do find that besides gender, tenure and expertise diversities are positively associated with the overall CSR performance of a firm.

2.2 ESG and financial performance

Even though many studies focus on the relation between ESG or CSR and financial performance there is still no consensus on the sign of the relation. Most studies find that there is a positive relation (e.g. Konar & Cohen, 2010; Waddock & Graves, 1997; Hill & Keim, 2001; Luo & Bhattacharya, 2006; Bird et al., 2007; Ferrell et al., 2016; Lins et al., 2017; Buchanan et al., 2018) but have different views on

why they find this relation. On the other hand, some studies find no relation or even a negative relation (e.g. McWilliams & Siegel, 2000; Marsat & Williams, 2011; Lima Crisóstomo et al., 2011).

2.2.1. Moderating and Mediating effects

Besides the lack of consensus on the sign of the relation between ESG and financial performance, different studies find different moderating and mediating effects. Hillman and Keim (2001) find that there is only a positive relation if the implemented CSR is closely related with the core business of the firm, giving the firm a competitive advantage of sorts. Cavaco and Crifo (2014) further support this competitive advantage theory. They show that firms only benefit from complementary CSR programs or a single CSR program, whereas implementing substitutable CSR programs (not firm or industry specific) decreases market value. Cavaco and Crifo (2014) therefore advocate that implementing such programs can result in conflicts between stakeholders and/or in overinvestments, in line with results from e.g. Barnea and Rubin, 2010; Harjoto and Jo, 2011; Krüger, 2015.

Lima Crisóstomo et al. (2011) and Luo and Bhattacharya (2006) highlight the importance of the economic environment and the respective place of the firm. Economies that are characterized as developing and focused on accelerated growth, show a negative relation between ESG and financial performance. This negative effect is most pronounced in the Environmental and Employee Relations domain (Lima Crisóstomo et al., 2011). Furthermore, only innovative firms benefit from a better CSR performance (Luo & Bhattacharya (2006).

Even though there is no consensus on the relation, the expectation is that ESG performance has a positive relation on financial performance. Firstly, meta-studies like Margolis et al. (2007) show on average a small but positive effect of ESG on financial performance. Secondly, as Cellier and Chollet (2012) advocate, investors are requesting more and more ESG performance ratings. This makes it likely that investors do value ESG performance.

H1: ESG performance positively influences financial performance.

A positive effect of ESG performance on financial performance can occur through a variety of different channels. Firms with a high ESG performance might find cheaper credit from banks, have more positive media attention, have less trouble finding good employees, etc. One of the most apparent channels is that better ESG performance results in more demand from consumers. However, the channels through which ESG performance influences financial performance are almost never the subject of ESG studies. A notable exception is Lins et al. (2017) who show that ESG performance is closely related to consumer trust. In an economic crisis, extra consumer trust (through higher ESG performance) makes the firm more robust and perform financially better during the crisis. Furthermore, as Bénabou and Tirole (2010) described, (some) consumers want firms to engage in philanthropy on their behalf. Those customers are then more inclined to buy products or services from firms engaging in philanthropy (i.e., who have a

higher ESG performance) on their behalf. What makes this channel particularly interesting is that it is not dependent on specific ESG factors or domains but rather on what stakeholders (especially consumers) request from firms. Thus, it might also indicate if consumers are acting on ESG performance.

H2a: Industry-adjusted demand positively mediates between ESG and financial performance.

It is also interesting to analyze whether ESG performance influences employees, especially since employees can make or break a firm. Employees might perform better and be more satisfied if the norms and values of the company they work for match with their own. However, employee satisfaction is a difficult concept to measure as it is subjective to each employee. There have been numerous studies that show that employee satisfaction positively correlates to employee productivity (e.g. Harter et al., 2002). Therefore, labor productivity could positively mediate between ESG and financial performance. This mediating relationship should be more pronounced for the ESG domains that more directly impact employee satisfaction: Employee Relations, Human Rights and Diversity.

H2b: Industry-adjusted labor productivity positively mediates between ESG and financial performance.

2.3 Changing perceptions of ESG performance

The inability of previous studies to come to a consensus on the sign of the relation between ESG and financial performance could also be due to changing perceptions of ESG performance by investors. However, few studies examine if perceptions of ESG performance change over time. Hong et al., 2015; Lins et al., 2017; Buchanan et al., 2018 are among the few to use the latest economic crisis as an exogenous shock. Lins et al. (2017) argue that social capital (influenced through CSR) is of significant influence on stakeholder trust in firms. Firms with a high CSR rating have a four to seven percent point higher stock return during the crisis than firms with low CSR ratings (lower stakeholder trust), but this effect does not hold outside of crisis periods. CSR is thus a way for firms to protect their financial performance against sudden decreases (during a crisis) in consumer trust. Buchanan et al. (2018), however, argue that the positive effect found by Lins et al. (2017) only holds for firms with high institutional ownership.

Although these studies use an exogenous shock to estimate the effect of CSR, the shock is chosen from a (traditional) shareholder point of view. An economic crisis has a significant influence on the relation between firms and its owners, but it is unlikely that norms and values related to ESG performance radically change (e.g. the use of child labor, CO₂ emissions) during an economic crisis. Therefore, using an economic crisis as an exogenous shock relates mostly to the dependent variable (financial performance) but not to the variable of interest (ESG performance). An ideal exogenous shock would thus be one which mainly influences the variable of interest (here ESG performance).

Unfortunately, this is almost impossible since ESG performance is subject to a variety of dimensions that are not necessarily intertwined.

Fortunately, the Paris Climate Agreement from December 2015 is a good alternative. In this Agreement almost all countries in the world committed to reduce global warming to 1.5 to 2 °C by 2050. This Agreement primarily impacts environmental performance of firms. However, the Agreement can also work through to the valuation of other ESG dimensions. The Agreement is arguably one of the most tangible events of changing norms and beliefs, as well as a tangible request from stakeholders to, among others, firms. Therefore, the Paris Agreement can have two opposing results. On the one hand, investors could only be interested in matters that directly influence (future) profits. Investors might only assess which firms might need to change their environmental performance the most due to the Paris Agreement, and only price in potential costs related to the environment and do not change their perceptions and preferences of ESG performance. On the other hand, the Paris Agreement can also act as a wake-up call of sorts for investors whereby investors recognize the more pressing role of stakeholders which leads to a revaluation of all factors and domains of ESG performance. In short, the Paris Climate Agreement offers an unique opportunity to analyze the effects of an exogeneous shock initiated by stakeholders on the value of ESG performance.

H3: Only Environmental performance is valued higher after the Paris Agreement, ceteris paribus.

2.4 Board diversity and financial performance

Perceptions are also changing on the (gender) diversity of boards and with it the role that (gender) diversity plays on ESG performance (the perspective agency cost theory). During the last decade, the position of women and corporate culture in firms have been a topic of much debate in both academic literature and society at large. Some countries have even introduced a gender quota for the board of directors. These gender quotas have been a popular research topic, though studies have found mixed results. Some studies find that more gender-diverse boards lead to worse financial performance (e.g. Adams & Ferreira, 2009; Ahern & Dittmar, 2012), whereas others find a positive effect (e.g. Terjesen et al., 2016; Bennouri et al., 2018), or no effect at all (Bennedsen et al., 2019).

Despite the inconsistent results, the concept that one's gender creates value is odd. In essence, it is the same as analyzing whether taller directors cause more profitability. Variables like gender tell nothing about the true underlying relation, which is why more recent studies have focused on what it is specifically that women bring to the table that men do not, or vice versa.

Adams and Ferreira (2009) show that women increase the input of the board of directors, which causes over-monitoring of the board, resulting in lower financial performance (Adams & Ferreira, 2009). However, Bennouri et al. (2018) prove that the negative relation of gender on firm value (Tobin's Q) disappears when they include attributes of female directors. However, it can also be that gender diversity

results in an increase of otherwise neglected or overlooked perspectives. Terjesen et al. (2016) advocate that more gender diversity not only increases the effectiveness of the board but also positively influences the effect of external independent directors on financial performance. Moreover, Liu (2018) shows that more gender-diverse boards results in fewer environmental lawsuits. Based on Bennouri et al. (2018); Terjesen et al. (2016); Liu (2018) markets do not value the mere gender of their directors but what they bring to the table.

Only a few studies combine gender diversity with ESG performance. Bear et al. (2010) find that more gender diversity on boards is related to a higher ESG performance, although they find no effects of different director attributes. Harjoto et al. (2015) do find that resources of directors positively influence ESG performance. However, it would also be strange if gender effects can be explained with director attributes. The attributes themselves are again meaningless. For example, qualifications itself do not lead to more profitability. Although, directors with more qualifications might be better able to understand the big picture and set out a better course for the firm which leads to higher profits. Gender diversity could thus also proxy for several aspects. Firstly, more female directors could result in more motivated or promoted women in lower regions of the firm, which could lead to a healthier work environment. Secondly, more gender diversity could result in a more open culture in the firm where different perspectives are more recognized and valued.

Furthermore, shareholders appoint a mix of directors that are jointly best fit to act in the interest of the shareholders. So, if directors are appointed who are diverse in resources and background, they might be selected to adhere to a more diverse set of goals. For example, as Estélyi and Nisar (2016) advocate, more nationality-diverse boards positively influence financial performance, as more nationalities result in diverse perspectives and cultures which translate into more informed and effective decisions. ESG performance could be one of those goals that require more diverse boards. As such, (gender-) diverse boards that have a good ESG performance might result in a higher valuation since it would be an objective set by shareholders.

H4: (Gender) diversity in boardrooms positively moderates ESG performance on Financial performance.

Part III: Data and Methodology

3.1 Sample construction

To construct the sample, ESG performance variables are gathered from the MSCI database. The MSCI database is the most widely used database for ESG studies (e.g. Barnea & Rubin, 2010; Krüger, 2015; Harjoto et al., 2015; Ferrell et al., 2016; Lins et al., 2017). Some, however, use other databases like Bloomberg (Buchanan et al., 2018) or Vigeo-Eiris (Cellier & Chollet, 2012; Cavaco & Crifo, 2014; Ferrell et al., 2016). Unfortunately, all databases use a proprietary rating model, making a direct comparison between databases difficult.

MSCI is the preferred choice since they provide the underlying variables of each firm's ESG performance (Appendix A). Furthermore, MSCI is an independent ESG analyst for institutional investors world-wide. This is interesting for two reasons. Firstly, MSCI's ESG scores are not dependent on what information firms supply, thereby reducing the risk that firms 'greenwash' their ESG performance to appear better than they are. Secondly, the ESG scores from MSCI are used by institutional investors. This reduces a concern for a possible spurious correlation since investors request and use the ESG scores from MSCI.

To construct the final sample, ESG variables are merged with director data from Boardex, additional director data (not covered by Boardex) and institutional ownership data from ISS and financial data from CRSP and Compustat. The data is collected over the period from 2003 to 2018. Since coverage from MSCI fluctuates over the years, observations prior to 2003 are not included due to insufficient observations and to mitigate dot-com bubble effects. After dropping observations with missing values for essential variables, there are around 1,900 listed firm observations each year. In total there are 29,501 listed firm year observations consisting of 226,981 director firm year observations. In the following sections the main variables are described with an overview of the used variables in Table 1.

3.1.1 Financial performance measures

One of the main financial performance measures is the widely used Tobin's Q. Here, Tobin's Q is defined as the market value of total assets to the book value of total assets. The market value of total assets is defined as: the book value of total assets plus the market value of equity minus the sum of the book value of equity, deferred taxes, and investment tax credit. Since this is a market-based performance measure it captures how shareholders value ESG performance. Accounting performance measures on the other hand, are not subject to subjective valuations of investors. Therefore, ROA, the ratio of operating income (EBIT) to total assets is also used. The combination of analyzing ESG performance on both market and accounting performance allows to differentiate between direct monetary effects (short-term performance) and shareholder views (long-term performance).

Table 1		Definitions of Used Variables	
Variable	Definition	Variable	Definition
<i>Firm Performance Variables:</i>		<i>Financial Variables (Continued):</i>	
Tobin's Q ^b	Ratio of the market value of total assets to the book value of total assets. Market value of total assets is the book value of total assets plus the market value of equity minus the sum of the book value of equity plus deferred taxes and investment tax credit (TXDITC)	Labor Productivity ^c	Ratio of revenue to the number of total employees
ROA ^b	Ratio of operating income (EBIT) to total assets	Labor Productivity growth ^c	Year to Year changes in labor productivity
<i>ESG Variables*:</i>		Industry-Adjusted Sales Growth ^c	Sales growth adjusted for the average industry (2 digit SIC) growth in the respective year
Environment Strength	Summation of all Strength variables in the Environment domain	Industry-Adjusted Labor Productivity growth ^c	Labor Productivity adjusted for the average industry (2 digit SIC) productivity in the respective year
Environment Concern	Summation of all concern variables in the Environment domain	Industry	2-digit SIC code
Community Strength	Summation of all Strength variables in the Community domain	<i>Ownership Variables:</i>	
Community Concern	Summation of all concern variables in the Community domain	# Blockholders	Number of blockholders (blockholders hold >5% of the shares)
Human Rights Strength	Summation of all Strength variables in the Human Rights domain	Blockholder Ownership Concentration	Percentage of shares owned by blockholders
Human Rights Concern	Summation of all concern variables in the Human Rights domain	<i>Board Characteristics:</i>	
Employee Relations Strength	Summation of all Strength variables in the Employee relations domain	Board size	Number of directors that are classified as holding a supervisory position
Employee Relations Concern	Summation of all concern variables in the Employee relations domain	# Female directors	Number of female directors
Diversity Strength	Summation of all Strength variables in the Diversity domain, with the exception of DIV_str_A, DIV_str_B and DIV_str_C	Fraction of female directors	Number of female directors divided by the size of the board.
Diversity Concern	Summation of all concern variables in the Diversity domain, with the exception of DIV_con_C	# Independent directors	Number of independent directors
Product Strength	Summation of all Strength variables in the Product domain	Fraction of independent directors	Number of independent directors divided by the size of the board.
Product Concern	Summation of all concern variables in the Product domain	<i>Board Diversity Variables:</i>	
Corporate Governance Strength	Summation of all Strength variables in the Corporate Governance domain, with the exception of CGOV_str_C	Diversity: Current Directorships	Diversity indexes are based on the formula from Blau (1977)
Corporate Governance Concern	Summation of all concern variables in the Corporate Governance domain, with the exception of CGOV_con_F	Diversity: Past Directorships	Categories are 0, 1-5, 6-10, >10
ESG	Summation of all seven ESG domain strength and concern scores.	Diversity: Gender	Categories are 0, 1-5, 6-10, 11-20, >20
Strengths	Total Strength score of all seven ESG domains constructed with factor loadings (see Table 2)	Diversity: Age	Categories are: <40, 40-50, 50-60, 60-70, 70>
Concerns	Total concern score of all seven ESG domains constructed with factor loadings (see Table 2)	Diversity: Tenure	Proxied by time in Company, categories are: <3, 3-6, 7-9, 10-12, 13-15, 15>
Factor ESG	Total Strength minus total concern score constructed with factor loadings (see Table 2).	Diversity: Nationality	Categories are: directors from different countries and those from one country (US)
<i>Financial Variables:</i>		Diversity: Network Size	Categories are: <100, 100-500, 500-1000, 1000-2500, 2500-5000, >5000
Size (Assets)	Log of total assets	Diversity: Board Independence	Categories are directors that are independent and those that are not
Size (Sales)	Log of revenue	Diversity: Number of Qualifications	Categories are: 0, 1, 2, 3, 4, 5, >5
Sales growth rate ^c	Year to Year changes in sales	Diversity: Ethnicity	Categories are: African American, Asian, Caucasian, Hispanic, Middle Eastern, Native, Indian, Unknown
CAPEX ^b	Capex Divided by total Assets	Diversity: Attendance	Categories are directors with and without attendance problems (<75% attendance)
Liquidity	Cash and short-term investments scaled by total assets	<i>Matching Differences:</i>	
Book Leverage ^a	Total debt to assets (book values)	High ESG firm	The firm has an above mean ESG performance
R&D Intensity (Assets) ^b	R&D expenses to total assets	High Factor ESG firm	The firm has an above mean (factor) ESG performance
R&D Intensity (Sales) ^c	R&D expenses to sales	<i>Instrumental Variables:</i>	
Profitability ^b	Net income to total assets	Connections with high ESG firms	Fraction of board directors that sit on other boards that have a high (above mean) ESG performance
Altman Z score ^c	Based on the formula from Altman, the score is an proxy for treat of Bankruptcy (Z-score <1.8)	Connections with high factor ESG firms	Fraction of board directors that sit on other boards that have a high (above mean) factor ESG performance
15 Kaplan Zingales Index ^b	Based on the formula from Kaplan and Zingales (1997), the index is a proxy for financial constraints		
Cash Dividends	Dummy variable equal to 1 if the firm paid cash dividends in that year; 0 otherwise.		

Note. *See Appendix A for the underlying ESG variables. ^a is winsorized with a fraction of 0.005, ^b with a fraction of 0.01 and ^c with a fraction of 0.025.

3.1.2 ESG performance measures

The ESG performance measures are constructed from the variables obtained from MSCI. The variables are divided in seven domains, namely: Environment, Community, Human Rights, Employee Relations, Diversity, Product and Corporate Governance. These domains are further divided into binary strength and concern variables. A value of 1 is assigned when a firm meets the criteria and a zero when they do not. For both the strength and concern variables MSCI determines the criteria based on numerous international conventions like the Universal Declaration of Human Rights¹.

An often-mentioned criticism is the inconsistency of ESG variables over time. Firstly, ESG variables are added or discontinued over the years, and secondly, the methodology behind the variables changes. However, both arguments are of little significance in this setting. As ESG performance is a dynamic measure it is imperative that criteria, definitions and even variables are subject to change. Criteria should be dynamic over time to account for changes in norms and values or changes in perceptions of society. Furthermore, a variable like privacy and data security is relatively new, as this mostly relates to the rise of the internet (thus only recently included).

With over 120 ESG variables (see Appendix A) per year, ESG measures must be constructed to include them into the models. Therefore, several methods are used to optimally include ESG effects in the models. Following the practice of most studies, total strength, and concern variables per ESG domains are created. These are then summed to a total strength and concern variable. Thereafter, the concern score is subtracted from the strength variable to create an overall ESG performance measure (e.g. Bird et al., 2007; Barnea & Rubin, 2010; Harjoto et al., 2015; Hong et al., 2015; Lins et al., 2017).

However, in some respects the used transformations do deviate from other studies. The diversity domain is sometimes excluded to mitigate collinearity with board characteristics (e.g. Harjoto et al., 2015). Here only the variables DIV_str_A (if the CEO is a female), DIV_str_B (at least one woman in the executive team), DIV_str_C (board of directors gender diversity) and DIV_con_C (board of directors gender diversity) are excluded to mitigate collinearity. The other variables in the Diversity domain capture different kinds of diversity (like employment of the disabled) not covered by other control or moderating variables and are therefore important to include.

Furthermore, Lins et al. (2017) exclude the Product domain as they advocate that some variables are outside the scope of ESG. Their results, however, remain unchanged when including the product domain. Here, all variables in the Product domain are included, as variables such as privacy and data security are part of an emerging debate in society and a vital part of ESG performance. Lins et al. (2017) also exclude the Corporate Governance domain as they argue that it is not in the remit of ESG. Contrary to them the Corporate Governance domain will be included apart from CGOV_str_C (ownership strength) and CGOV_con_F (ownership concentration) as these variables can create collinearity with

¹ See for a detailed description of the methodology behind the variables https://wrds-www.wharton.upenn.edu/documents/1353/MSCI_ESG_KLD_STATS_1991-2015_Data_Set_Methodology.pdf?_ga=2.13059447.1180328800.1594719954-1683434371.1587890741

control variables for ownership concentration.

An important, often neglected, assumption in studies (almost all referenced studies in Section 2) is to use equal weighting of the ESG domains to construct an overall ESG measure. However as mentioned in Section 2.1, weighting should mimic the views of society on what is important. In part, MSCI already deals with this problem by assessing which variables are of importance to the firm of industry (e.g. agriculture chemicals are arguably not relevant for an internet firm). So, simply adding and/or subtracting the individual variables per domain strength or concern does not yield a major concern. However, it is unlikely that all ESG domains or even strengths and concerns are equally important as most studies do. Naturally, the relative importance of ESG domains varies per person, culture, and country (aggregated, society). To analyze whether assuming equal weights leads to different results a second overall ESG measure is constructed. To avoid making any subjective assumptions on the importance of domains, factor analysis is used to determine the weights.

Factor analysis is a way to let the observations determine the relative importance of the variables, though it does not necessarily represent the true weighting of society. To optimally estimate the true factor loadings, all US firms covered by MSCI are used (before observations are dropped due to missing financials or board data). On the strength side Environment, Community and Employee Relations all have an average factor loading between 0.5 and 0.6 (see Table 2), whereas the Human Rights, Corporate Governance and Product domains have lower loadings between 0.2 and 0.32, implying that they are less important. Although the Diversity domain has a relatively high average factor loading of 0.492 the standard deviation is also high at 0.344. This is predominantly due to no factor loadings from 2014 and onwards due to zero variance, which is due to the exclusion of DIV_str_A, DIV_str_B, and DIV_str_C. On the concern side all domains have relatively similar factor loadings with the exception of the Diversity domain at just 0.065. The factor loadings indicate that assuming equal weights per ESG domain might be incorrect. In fact, results between the two overall ESG performance scores can differ significantly (as shown in Section 4).

Table 2 Summary Statistics of Yearly ESG Performance Factor Loadings

Variable	Obs	Mean	Std. Dev.	Min	Max
Environment Strength	16	0.566	0.134	0.313	0.802
Community Strength	16	0.600	0.098	0.405	0.744
Human Rights Strength	16	0.301	0.133	0.091	0.592
Employee Relations Strength	16	0.548	0.054	0.441	0.652
Diversity Strength	16	0.492	0.344	0.000	0.801
Product Strength	16	0.320	0.121	0.117	0.535
Corporate Governance Strength	16	0.289	0.221	-0.057	0.747
Environment Concern	16	0.543	0.068	0.369	0.642
Community Concern	16	0.451	0.115	0.204	0.589
Human Rights Concern	16	0.338	0.106	0.170	0.480
Employee Relations Concern	16	0.458	0.115	0.265	0.636
Diversity Concern	16	0.065	0.178	-0.125	0.449
Product Concern	16	0.463	0.088	0.261	0.555
Corporate Governance Concern	16	0.388	0.149	-0.108	0.540

17 Note. Reported are the yearly factor loadings. To properly reflect the true factor loadings all US firms that MSCI covers are used, before any observations are dropped with missing financial and/or board data.

3.1.3 Board diversity measures

To capture whether differences in the board of directors influence the relation between ESG and financial performance, eleven diversity measures are constructed. Each diversity measure is constructed via the index of heterogeneity of Blau (1977).

$$(1) \quad 1 - \sum P_i^2$$

Where P is the fraction of directors in category i and i is the respective category.

Current Directorships is the diversity index for current other directorships of board members in that respective year and captures the business of board members. The four categories are: 0, 1-5, 6-10, more than 10 current directorships. Past Directorships is the diversity index for past directorships of board members in that respective year and captures the experience of board members. The five categories are: 0, 1-5, 6-10, 11-20, more than 20 past directorships. Gender is the gender diversity of the board consisting of two categories: Female and Male. Age is the diversity index for the age of the directors of the board consisting of five categories: younger than 40, 40 to 49, 50 to 59, 60 to 69 and 70 or older. Tenure is the diversity index for years of service in the company measured as the time that directors are operational in the company (not specific to the board). The index consists of six categories: less than 3 years, 3 to 6 years, 7 to 9 year, 9 to 12 years, 12 to 15 years, 15 or more years. Nationality is the diversity index for the different nationalities of the directors and captures among other effects differences in perspectives through the experience of different cultures. The measure consists of two categories: directors with the US nationality and those with a different nationality. Network Size is the diversity index for the network size of the directors and captures the connectiveness of directors. The individual network size is obtained from Boardex and measured as the number of overlaps through employment, other activities, and education. The index consists of six categories: fewer than 100, 100 to 499, 500 to 999, 1000 to 2499, 2500 to 4999 and more than 5000 overlaps. Board Independence is the diversity index for the independence of directors. A director is independent if the director is qualified as an outside director and if the director is classified as a supervisor (not an executive). The index consists of two categories: independent and dependent directors. Number of Qualifications is the diversity index for the number of qualifications directors have. The number of qualifications is defined as the number of qualifications at undergraduate level and above. The index consists of seven categories: 0, 1, 2, 3, 4, 5 and 5 or more qualifications. Ethnicity is the diversity index for differences in ethnicity and captures among other effects differences in perspectives through the experience of different races. The eight categories are: African American, Asian, Caucasian, Hispanic, Middle Eastern, Native, and Indian and Unknown. Attendance is the diversity index for directors with an attendance problem. An attendance problem is defined as a director who attends less than 75% of the meetings in a year. The index consists of two categories: directors with an attendance problem and without an attendance problem.

3.1.4 Control variables

Following the literature, several financial variables are included following the practice of others (e.g. Flammer, 2015; Buchanan et al., 2018; Bennourri et al., 2018, Adams & Ferreira, 2009). As a result, firm size (proxied by the logarithm of total assets), sales growth rate (the year to year growth rate), capital expenditures, liquidity, profitability, and book leverage are included in the models. Moreover, to account for the financial ability of firms to invest in ESG enhancing programs several proxies are used. The first proxy is the Altman Z score following the practice of Liu (2018).

$$(2) \quad Z_{i,t} - score = 1.2A_{i,t} + 1.4B_{i,t} + 3.3C_{i,t} + 0.6D_{i,t} + 1.0E_{i,t}$$

Where A is the ratio of working capital to total assets, B is the ratio of retained earnings to total assets, C is the ratio of EBIT to total assets, D is the ratio of the market value of equity to total liabilities, E is the ratio of sales to total assets and i & t denote the respective firm and year. A Z-score below 1.8 is an indication that a firm is headed for bankruptcy, whereas firms with a score above a 3 are not under serious threat of bankruptcy. In the used data sample 6,163 firm year observations have a z-score below 1.8.

A different proxy for financial constraints is the Kaplan Zingales (1997) Index. This index measures the equity dependence of the respective firm. Here the formula as in Hong et al. (2012) is used:

$$(3) \quad KZ - score_{i,t} = -1.002A_{i,t} - 39.368B_{i,t} - 1.315C_{i,t} + 3.139D_{i,t} + 0.283E_{i,t}$$

Where A is the ratio of cash flow to lagged total assets, B is the ratio of cash dividends to lagged total assets, C is the ratio of cash balance to lagged total assets, D is book leverage, E is the Tobin's Q and i & t denote the respective firm and year. A drawback of using the Altman Z-score and the Kaplan Zingales Index is that both are to some degree dependent on market valuations which could capture mispricings.

Therefore, as a third proxy, an interaction between two variables is considered. A dummy variable for whether the company paid cash dividends is added to the previously mentioned control variables. This variable serves in combination with the (already included) liquidity variable as an indication for financial constraints. A firm with a low liquidity and no cash dividends likely has more financial constraints than a firm with no cash dividends with a high liquidity (thus could pay cash dividends). The combination of both variables serves as a proxy for financial constraints. All three proxies present similar results in unrepresented results. As the third proxy allows for more observations than the Altman Z score and Kaplan Zingales Index, it is used in the presented results.

3.2 Summary statistics

Table 3 reports the descriptive statistics for the 29,501 firm year observations. The average firm has a Tobin's Q of 2.4 and a ROA of 5.6%. However, both variables show relatively large standard deviations, indicating the diversity of the sample in both short- and long-term financial performance. The sample is also diverse in terms of ESG performance. Most ESG measures show a relatively large standard deviation compared to the mean. Moreover, only the Environment, Community and Employee Relations domain have on average more strengths than concerns, the other domains all have on average more concerns than strengths. The two different weighting mechanisms for overall ESG performance show some differences as expected. The equal weights measure shows that the average firm has a neutral score but with a high standard deviation of 2.2. Factor weighting, on the other hand, shows that the average firm has a positive score and a lower standard deviation of 1.1. This is a first indication that assuming equal weights might be inaccurate.

Furthermore, the average firm is large and has a positive sales growth (4.2%). The average firm holds a liquidity of 17.5% and has a leverage over 50%. In more than half of the firm year observations cash dividends were paid. Furthermore, labor productivity growth is positive on average. However, for the average firm industry-adjusted sales growth and labor productivity growth are both negative, which is likely due to effects from the latest economic crisis (2008/2009). The average firm in the sample has a smaller board size than in other studies (e.g. Adams & Ferreira, 2009). However, the average firm does have a higher fraction of females and independent directors on the board of directors compared to other studies (e.g. Adams & Ferreira, 2009; Bennouri et al., 2018).

3.3 Winsorization

As can be seen from the summary statistics in Table 3 some variables likely capture some measurement errors and/or outliers. To mitigate these concerns some variables are winsorized. Leverage is winsorized with a fraction of 0.005, Tobin's Q, ROA, R&D intensity, CAPEX intensity and the Kaplan Zingales Index are winsorized with a 0.01 fraction. Furthermore, ROE, R&D intensity, sales growth, industry-adjusted sales growth, labor productivity, industry-adjusted labor productivity growth and the Altman-Z score are winsorized with a fraction of 0.025. An alternative measure would be to drop the outlying observations from the sample, however, this would reduce the sample size. The presented results in section 4 are robust to using un-winsorized variables.

3.4 Correlation

Almost all pairwise correlations in Table 4 are significant at the 1% level. Although most correlations are in line with previous studies, some values hint to the nuances of ESG performance. The sign of the correlations between financial performance (Tobin's Q or ROA), control variables & board diversity measures and ESG domains is not for all domains positive. This is an indication of the different influences on and by ESG domains with respect to other characteristics. The correlations of both overall ESG measures are similar with respect to the other variables in signs and significance.

Table 3

Descriptive Statistics of Unwinsorized Variables

Variable	N	Mean	Std. Dev.	Min	Max	Variable	N	Mean	Std. Dev.	Min	Max
<i>Firm Performance Variables:</i>						<i>Financial Variables (Continued):</i>					
Tobin's Q	29,501	2.402	1.841	-98.904	77.354	Industry-Adjusted Sales Growth	29,501	-0.652	3.967	-97.734	1.370
ROA	29,457	5.583	25.543	-3167.903	144.529	Industry (3 Digit) Adjusted Sales Growth	29,501	-0.578	4.332	-162.718	1.668
<i>ESG Variables:</i>						<i>Ownership Variables:</i>					
Environment Strenght	29,501	0.293	0.756	0	6	# Blockholders	8,635	3.236	1.639	0	17
Environment Concern	29,501	0.147	0.528	0	5	Blockholder Ownership Concentration	8,571	0.417	2.263	0	100
Community Strenght	29,501	0.100	0.383	0	5	<i>Board Characteristics:</i>					
Community Concern	29,501	0.054	0.238	0	3	Board size	29,501	7.694	2.398	2	30
Human Rights Strenght	29,501	0.028	0.190	0	2	# Female directors	29,501	1.091	1.041	0	7
Human Rights Concern	29,501	0.035	0.200	0	3	Fraction of female directors	29,501	0.132	0.119	0	0.800
Employee Relations Strenght	29,501	0.398	0.881	0	8	# Independent directors	29,501	1.057	1.618	0	20
Employee Relations Concern	29,501	0.284	0.582	0	5	Fraction of independent directors	29,501	0.140	0.206	0	1
Diversity Strenght	29,501	0.174	0.564	0	5	<i>Board Diversity Variables:</i>					
Diversity Concern	29,501	0.286	0.463	0	2	Diversity: Current Directorships	29,501	0.196	0.192	0	0.926
Product Strenght	29,501	0.109	0.332	0	3	Diversity: Past Directorships	29,501	0.548	0.182	0	0.917
Product Concern	29,501	0.160	0.484	0	4	Diversity: Gender	29,501	0.200	0.162	0	0.500
Corporate Governance Strenght	29,501	0.143	0.365	0	3	Diversity: Age	29,501	0.574	0.132	0	1
Corporate Governance Concern	29,501	0.277	0.514	0	4	Diversity: Tenure	29,501	0.584	0.217	0	0.833
ESG	29,501	0.000	2.216	-12	17	Diversity: Nationality	29,501	0.104	0.180	0	0.500
Factor Strenghts	29,501	0.657	1.272	-0.057	14.574	Diversity: Network Size	29,501	0.659	0.118	0	1
Factor Concerns	29,501	0.380	0.752	-0.449	8.514	Diversity: Board Independence	29,501	0.155	0.191	0	0.500
Factor ESG	29,501	0.277	1.146	-5.009	13.136	Diversity: Number of Qualifications	29,501	0.601	0.134	0	0.844
<i>Financial Variables:</i>						<i>Matching differences:</i>					
Size (Assets)	29,501	7.487	1.725	-0.021	14.780	Diversity: Ethnicity	16,449	0.226	0.187	0	0.736
Sales growth rate	29,501	0.420	22.610	-25.056	3701.467	Diversity: Attendance	16,449	0.012	0.051	0	0.500
CAPEX	29,501	0.044	0.058	-0.152	0.715	<i>Instrumental Variables:</i>					
Liquidity	29,501	0.175	0.204	0	0.996	Connections with high ESG firms	29,501	0.167	0.191	0	1
Book Leverage	29,501	0.566	0.283	0.009	6.812	Connections with high factor ESG firms	29,501	0.175	0.192	0	1
R&D Intensity (Assets)	16,477	0.071	0.122	0	4.323						
Profitability	29,501	0.015	0.256	-31.395	1.913						
Altman Z score	24,686	4.745	8.449	-279.953	342.839						
Kaplan Zingales Index	24,286	1.476	1.869	-80.180	40.040						
Cash Dividends	29,501	0.532	0.499	0	1						
Labor Productivity	29,261	727.932	5432.096	-153123	504500						
Labor Productivity growth	29,196	0.231	6.663	-25.816	715.606						

Table 4

Correlation Matrix

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
1. Tobin's Q	1											
2. ROA	0.133 ***	1										
3. ENVIRONMENT Domain	0.031 ***	0.038 ***	1									
4. COMMUNITY Domain	0.001	0.018 ***	0.198 ***	1								
5. HUMAN RIGHTS Domain	-0.018 ***	-0.038 ***	0.102 ***	0.029 ***	1							
6. EMPLOYEE RELATIONS Domain	0.028 ***	0.037 ***	0.294 ***	0.095 ***	0.088 ***	1						
7. DIVERSITY Domain	-0.024 ***	0.043 ***	0.148 ***	0.302 ***	-0.065 ***	0.166 ***	1					
8. PRODUCT Domain	0.069 ***	-0.042 ***	0.073 ***	-0.032 ***	0.108 ***	0.107 ***	-0.136 ***	1				
9. CORPORATE GOVERNANCE Domain	0.005	-0.034 ***	0.075 ***	0.006	0.119 ***	0.079 ***	-0.040 ***	0.183 ***	1			
10. ESG	0.033 ***	0.023 ***	0.635 ***	0.396 ***	0.240 ***	0.695 ***	0.462 ***	0.339 ***	0.397 ***	1		
11. Strengths	-0.037 ***	0.067 ***	0.504 ***	0.454 ***	0.005	0.461 ***	0.591 ***	-0.108 ***	0.001	0.646 ***	1	
12. Concerns	-0.087 ***	0.054 ***	-0.177 ***	0.021 ***	-0.247 ***	-0.177 ***	0.327 ***	-0.522 ***	-0.316 ***	-0.283 ***	0.454 ***	
13. Factor ESG	0.016 ***	0.039 ***	0.676 ***	0.491 ***	0.167 ***	0.628 ***	0.441 ***	0.223 ***	0.209 ***	0.903 ***	0.811 ***	
14. Size (Assets)	-0.326 ***	0.138 ***	0.206 ***	0.167 ***	-0.012 **	0.274 ***	0.378 ***	-0.181 ***	-0.083 ***	0.285 ***	0.527 ***	
15. Sales growth rate	0.012 **	-0.012 **	-0.003	-0.002	0.000	-0.002	-0.002	0.004	0.001	-0.002	-0.007	
16. CAPEX	0.041 ***	0.029 ***	-0.065 ***	-0.024 ***	0.086 ***	-0.031 ***	-0.049 ***	-0.026 ***	0.000	-0.055 ***	-0.004	
17. Liquidity	0.454 ***	-0.194 ***	0.005	-0.011 *	-0.018 ***	-0.004	-0.064 ***	0.077 ***	-0.027 ***	-0.014 **	-0.078 ***	
18. Book Leverage	-0.200 ***	-0.068 ***	0.030 ***	0.021 ***	-0.002	0.029 ***	0.097 ***	-0.061 ***	0.020 ***	0.051 ***	0.094 ***	
19. Profitability	0.113 ***	0.957 ***	0.036 ***	0.020 ***	-0.027 ***	0.044 ***	0.040 ***	-0.030 ***	-0.021 ***	0.033 ***	0.065 ***	
20. Cash Dividends	-0.200 ***	0.121 ***	0.082 ***	0.069 ***	-0.010 *	0.110 ***	0.166 ***	-0.078 ***	0.054 ***	0.142 ***	0.221 ***	
21. Board size	-0.197 ***	0.039 ***	0.149 ***	0.135 ***	-0.032 ***	0.154 ***	0.310 ***	-0.104 ***	-0.020 ***	0.216 ***	0.362 ***	
22. Diversity: Current Directorships	0.080 ***	-0.054 ***	0.020 ***	0.041 ***	-0.012 **	0.014 **	0.077 ***	-0.048 ***	-0.081 ***	0.010 *	0.079 ***	
23. Diversity: Past Directorships	0.040 ***	-0.005	0.092 ***	0.054 ***	-0.003	0.075 ***	0.148 ***	-0.060 ***	-0.130 ***	0.074 ***	0.178 ***	
24. Diversity: Gender	-0.029 ***	0.045 ***	0.185 ***	0.102 ***	0.008	0.182 ***	0.354 ***	-0.011 *	-0.008	0.282 ***	0.261 ***	
25. Diversity: Age	0.006	-0.007	0.028 ***	0.005	-0.018 ***	-0.006	0.002	-0.001	-0.016 ***	0.002	0.000	
26. Diversity: Tenure	-0.097 ***	0.065 ***	0.084 ***	0.052 ***	-0.016 ***	0.075 ***	0.112 ***	-0.046 ***	-0.045 ***	0.085 ***	0.167 ***	
27. Diversity: Nationality	0.048 ***	-0.014 **	0.118 ***	0.064 ***	0.012 **	0.078 ***	0.103 ***	-0.038 ***	-0.037 ***	0.106 ***	0.175 ***	
28. Diversity: Network Size	-0.089 ***	0.022 ***	-0.076 ***	-0.028 ***	-0.024 ***	-0.085 ***	-0.030 ***	-0.042 ***	-0.036 ***	-0.105 ***	-0.061 ***	
29. Diversity: Board Independence	-0.050 ***	0.028 ***	-0.121 ***	0.003	-0.083 ***	-0.146 ***	-0.007	-0.070 ***	-0.044 ***	-0.152 ***	-0.054 ***	
30. Diversity: Number of Qualifications	-0.075 ***	0.016 ***	0.008	0.008	-0.027 ***	0.019 ***	0.052 ***	-0.041 ***	-0.014 **	0.012 **	0.052 ***	
31. Diversity: Ethnicity	-0.024 ***	0.033 ***	0.013 *	0.060 ***	-0.102 ***	-0.053 ***	0.166 ***	-0.137 ***	-0.167 ***	-0.044 ***	0.149 ***	
32. Diversity: Attendance	0.000	-0.013 *	-0.028 ***	0.002	-0.021 ***	-0.036 ***	0.004	-0.005	-0.026 ***	-0.035 ***	-0.019 **	
		12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
12. Concerns		1										
13. Factor ESG		-0.152 ***	1									
14. Size (Assets)		0.414 ***	0.314 ***	1								
15. Sales growth rate		-0.007	-0.003	-0.005	1							
16. CAPEX		0.054 ***	-0.040 ***	-0.057 ***	0.017 ***	1						
17. Liquidity		-0.116 ***	-0.011 *	-0.447 ***	0.018 ***	-0.130 ***	1					
18. Book Leverage		0.099 ***	0.039 ***	0.372 ***	-0.004	-0.060 ***	-0.341 ***	1				
19. Profitability		0.043 ***	0.045 ***	0.154 ***	-0.011 **	0.019 ***	-0.173 ***	-0.109 ***	1			
20. Cash Dividends		0.165 ***	0.136 ***	0.431 ***	-0.014 **	-0.065 ***	-0.372 ***	0.226 ***	0.124 ***	1		
21. Board size		0.271 ***	0.224 ***	0.590 ***	-0.001	-0.117 ***	-0.272 ***	0.317 ***	0.047 ***	0.340 ***	1	
22. Diversity: Current Directorships		0.087 ***	0.030 ***	0.059 ***	0.007	0.000	0.138 ***	0.016 ***	-0.055 ***	-0.126 ***	0.043 ***	1
23. Diversity: Past Directorships		0.147 ***	0.101 ***	0.178 ***	0.007	-0.028 ***	0.087 ***	0.029 ***	-0.011 *	-0.080 ***	0.182 ***	0.463 ***
24. Diversity: Gender		0.101 ***	0.224 ***	0.342 ***	-0.002	-0.086 ***	-0.122 ***	0.159 ***	0.045 ***	0.210 ***	0.323 ***	-0.016 ***
25. Diversity: Age		-0.001	0.000	-0.002	0.001	-0.009	0.030 ***	0.022 ***	-0.009	-0.062 ***	0.129 ***	0.072 ***
26. Diversity: Tenure		0.119 ***	0.107 ***	0.195 ***	-0.010 *	-0.039 ***	-0.123 ***	0.037 ***	0.066 ***	0.201 ***	0.277 ***	-0.147 ***
27. Diversity: Nationality		0.116 ***	0.118 ***	0.131 ***	0.012 **	-0.033 ***	0.093 ***	-0.010 *	-0.016 ***	-0.032 ***	0.127 ***	0.152 ***
28. Diversity: Network Size		0.046 ***	-0.098 ***	0.032 ***	0.000	0.028 ***	-0.127 ***	0.051 ***	0.017 ***	0.061 ***	0.157 ***	0.000
29. Diversity: Board Independence		0.094 ***	-0.122 ***	-0.056 ***	-0.004	-0.011 *	-0.068 ***	-0.025 ***	0.028 ***	0.044 ***	0.037 ***	-0.068 ***
30. Diversity: Number of Qualifications		0.067 ***	0.013 **	0.130 ***	0.005	-0.058 ***	-0.095 ***	0.071 ***	0.019 ***	0.109 ***	0.251 ***	-0.032 ***
31. Diversity: Ethnicity		0.256 ***	0.003	0.143 ***	-0.001	-0.036 ***	0.026 ***	0.064 ***	0.012	0.020 **	0.155 ***	0.168 ***
32. Diversity: Attendance		0.017 **	-0.032 ***	-0.021 ***	0.002	-0.004	0.028 ***	-0.013 *	-0.001	-0.029 ***	0.020 ***	0.039 ***
		23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	
23. Diversity: Past Directorships		1										
24. Diversity: Gender		0.097 ***	1									
25. Diversity: Age		0.063 ***	0.001	1								
26. Diversity: Tenure		-0.027 ***	0.161 ***	0.005	1							
27. Diversity: Nationality		0.195 ***	0.071 ***	0.126 ***	0.022 ***	1						
28. Diversity: Network Size		0.036 ***	0.003	0.072 ***	0.081 ***	-0.005	1					
29. Diversity: Board Independence		-0.083 ***	-0.114 ***	0.000	0.196 ***	-0.073 ***	0.096 ***	1				
30. Diversity: Number of Qualifications		0.011 *	0.078 ***	0.055 ***	0.123 ***	0.051 ***	0.148 ***	0.056 ***	1			
31. Diversity: Ethnicity		0.169 ***	0.044 ***	0.040 ***	0.058 ***	0.128 ***	0.086 ***	0.129 ***	0.078 ***	1		
32. Diversity: Attendance		0.030 ***	-0.033 ***	0.025 ***	-0.004	0.013	0.014	0.023 ***	-0.005	0.039 ***	1	

Note. Reported are the Pearson correlations of unwinsorized variables as defined in Table 1. Total ESG domain variables are constructed by subtracting the respective domain concerns from the strengths: *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

3.5 Econometric specification

As in every study, there are important statistical problems that need to be controlled for. Firstly, using the MSCI database results in some sample selection bias since the database only provides ESG scores for listed firms. Firms outside of the coverage do not have an ESG score of zero but an unknown score. Therefore, no assumptions can be made of firms outside of the coverage, which leads to a sample selection bias. Furthermore, the number of firms that are covered by MSCI grows over the years (mostly non-US firms) and firms are not always listed over the entire data period, resulting in an unbalanced sample. Secondly, Waddock and Graves (1997) provide evidence for reverse causality when estimating the relation between CSR and financial performance. They not only find that good CSR performance relates to better financial performance, but better financial performance also relates to better CSR performance. Margolis et al. (2007) and Krüger (2015) further underwrite the importance of controlling for reverse causality and endogeneity issues in ESG/CSR performance studies.

Therefore, several identification strategies are used to control for these and other issues. Firstly, to mitigate the sample selection problem, firms are matched based on a propensity score matching approach from Rosenbaum and Rubin (1983). Ideally, firms with a good ESG score are matched with those with a bad score. However, what constitutes good or bad ESG performance is a rather subjective judgment. Some would argue that good ESG behavior means having a positive overall score. Others might argue that one should look at the relative industry performance. As only the ESG scores are known for the firms in the sample, neither definition is optimal. Following the practice of Liu (2018), firms with above and below mean ESG performance scores are matched.

It is imperative to first confirm if there are indeed differences between high and low ESG firms in the sample before matching observations. A firm is classified as a high (factor) ESG performance if the (factor) ESG performance of the firm is above the mean of all US firms covered by MSCI (before observations are dropped due to missing financial or board data). This allows for the least possible bias due to sample selection, as the mean (factor) ESG in the sample is 0.000 (0.277) and for all US firms covered by MSCI 0.172 (0.322). Using the sample mean would result in an over classification of high (factor) ESG firms.

Table 5 shows that there are indeed significant differences between high and low (factor) ESG firms. Firms with high (factor) ESG performance have higher ROA, are larger, more leveraged, more profitable and have a higher likelihood of paying cash dividends than low (factor) ESG firms. High (factor) ESG firms also have a lower sales growth rate, capex intensity, liquidity & R&D intensity than firms with low (factor) ESG performance. However, there is no significant difference in Tobin's Q between high and low ESG performance firms. On the contrary, firms with a high factor ESG performance have a significantly lower Tobin's Q than firms with a low factor ESG performance. Furthermore, industry-adjusted sales growth and labor productivity growth are lower for high ESG firms than low ESG firms, whereas for the factor ESG performance measure this effect is exactly the opposite. This is another indication that the assumption on how to construct overall ESG performance is crucial.

There are no significant differences in ownership between high and low (factor) ESG firms for the smaller subsample with ownership data. Furthermore, high (factor) ESG firms do have a larger board, more diversity in terms of directorships (both current and past), gender, tenure, nationality & number of qualifications and lower diversity in terms of age, network size, independence and attendance than low (factor) ESG firms.

Therefore, the analysis from here on out is performed on both the un-matched and matched sample to account for unobserved heterogeneity between firms and sample selection bias. Matching is executed on the variables denoted with an ^a, ^b, or ^c in Table 1. Variables denoted with an ^a are always included as matching criteria, whereas ^b is only used for models regressed on Tobin's Q. Variables denoted by ^c are used in all models except all models presented in Section 4.4. The matching process itself is executed on a logit caliper propensity score matching procedure with a caliper distance of 1% without replacement following the practice of others (e.g. Bennouri et al., 2018). Each high (factor) ESG firm is matched with a unique low (factor) ESG firm. This results in a matched sample of 13,844 (13,814) firm year observations for models regressed on Tobin's Q (ROA). Some argue that using matched samples also deals with endogeneity (e.g. Liu, 2018). However, as Bennouri et al. (2018) argue, using a matched sample controls for heterogeneity between subsamples but endogeneity might still be present. Therefore, additional methods are used to deal with endogeneity issues.

The univariate analysis of Table 5 substantiates a possible concern for reverse causality as profitability differs between high and low (factor) ESG firms. A widely used method to deal with (in particular, reverse causality) endogeneity is to include lagged dependent variables combined with firm fixed effects. Based on these results one year lagged dependent variables with firm fixed effects are included in some models for robustness following the practice of, among others, Adams and Ferreira, 2009; Bennouri et al., 2018; Liu, 2018.

A different way of dealing with endogeneity concerns is by using an instrumental variable. A valid instrument needs to meet the conditions of relevance and exclusivity. The relevance condition is always tested in the first stage of the regression, as the instrument needs to be significant. However, there is no test for the exclusion restriction. An instrument is exclusive if the instrument only influences the dependent variable (financial performance) through the endogenous instrumented variable (ESG performance). Ideally, the instrument would be in the direction of norms and values or social connections from directors and employees of the firm, as these factors can be of significant influence on why firms have a certain ESG performance. Unfortunately, such variables are unobservable, which is why other studies have refrained from using this method. What can be observed is the connections which exist within the sample. Thus, the instrument is defined as the fraction of board directors that sit on other boards which have a high (above mean) ESG performance. The greater this fraction is, the higher ESG performance should be of the firm. As shown in Table 3, only between 16.7 and 17.5% (depended on the weighting mechanism of ESG) of the firms in the sample have directors that sit on other boards which have a high (factor) ESG performance.

Table 5

Univariate Analysis by Low and High (Factor) ESG Performance

	Equal Weights ESG performance						Factor ESG performance							
	Low ESG firms			High ESG firms			Difference	Low ESG firms			High ESG firms			Difference
	Mean	SD	N	Mean	SD	N		Mean	SD	N	Mean	SD	N	
Tobin's Q	2.388	(1.448)	20,411	2.366	(1.483)	9,090	0.022	2.392	(1.479)	20,562	2.354	(1.409)	8,939	0.038 **
ROA	5.536	(0.095)	20,384	6.668	(0.123)	9,073	-1.132 ***	5.178	(0.096)	20,537	7.512	(0.117)	8,920	-2.334 ***
Size (Assets) ^a	7.110	(1.557)	20,411	8.334	(1.783)	9,090	-1.224 ***	7.089	(1.529)	20,562	8.403	(1.800)	8,939	-1.313 ***
Sales growth rate ^a	0.121	(0.242)	20,411	0.096	(0.206)	9,090	0.025 ***	0.125	(0.244)	20,562	0.089	(0.198)	8,939	0.036 ***
CAPEX ^a	0.045	(0.055)	20,411	0.039	(0.047)	9,090	0.006 ***	0.044	(0.055)	20,562	0.041	(0.047)	8,939	0.003 ***
Liquidity ^a	0.183	(0.212)	20,411	0.158	(0.183)	9,090	0.026 ***	0.184	(0.215)	20,562	0.156	(0.173)	8,939	0.027 ***
Book Leverage ^a	0.545	(0.263)	20,411	0.604	(0.248)	9,090	-0.059 ***	0.549	(0.265)	20,562	0.597	(0.246)	8,939	-0.048 ***
R&D Intensity (Assets) ^a	0.070	(0.109)	11,522	0.064	(0.090)	4,955	0.006 ***	0.073	(0.112)	11,426	0.059	(0.083)	5,051	0.014 ***
Profitability ^b	0.013	(0.140)	20,411	0.029	(0.115)	9,090	-0.016 ***	0.011	(0.140)	20,562	0.035	(0.112)	8,939	-0.024 ***
Altman Z score	4.599	(4.684)	17,505	4.404	(4.298)	7,181	0.195 ***	4.659	(4.778)	17,308	4.270	(4.050)	7,378	0.389 ***
Kaplan Zingales Index	1.548	(1.212)	17,220	1.434	(1.176)	7,066	0.114 ***	1.558	(1.211)	17,014	1.414	(1.176)	7,272	0.145 ***
Cash Dividends ^a	0.478	(0.500)	20,411	0.651	(0.477)	9,090	-0.173 ***	0.481	(0.500)	20,562	0.649	(0.477)	8,939	-0.168 ***
Labor Productivity	491.006	(607.203)	20,236	547.133	(612.684)	9,025	-56.127 ***	488.970	(608.224)	20,562	552.731	(609.938)	8,939	-63.761 ***
Labor Productivity growth	0.266	(7.481)	20,183	0.153	(4.298)	9,013	0.113	0.275	(7.477)	20,562	0.131	(4.241)	8,939	0.143 **
Industry-Adjusted Sales Growth	-0.596	(4.032)	20,411	-0.779	(3.812)	9,090	0.183 ***	-0.669	(4.116)	20,562	-0.614	(3.600)	8,939	-0.056
Industry-Adjusted Labor Productivity growth	-0.455	(2.542)	20,183	-0.563	(2.575)	9,013	0.109 ***	-0.503	(2.640)	20,330	-0.454	(2.340)	8,866	-0.049
# Blockholders	3.230	(1.691)	5,085	3.245	(1.560)	3,550	-0.015	3.239	(1.689)	4,830	3.233	(1.572)	3,805	0.006
Blockholder Ownership Concentration	0.445	(2.646)	5,036	0.378	(1.565)	3,535	0.067	0.433	(2.539)	4,783	0.397	(1.858)	3,788	0.035
Board size ^a	7.305	(2.250)	20,411	8.567	(2.487)	9,090	-1.262 ***	7.315	(2.273)	20,562	8.566	(2.449)	8,939	-1.252 ***
Diversity: Current Directorships ^c	0.194	(0.195)	20,411	0.199	(0.186)	9,090	-0.005 **	0.192	(0.196)	20,562	0.205	(0.184)	8,939	-0.013 ***
Diversity: Past Directorships ^c	0.539	(0.186)	20,411	0.568	(0.170)	9,090	-0.029 ***	0.535	(0.187)	20,562	0.578	(0.163)	8,939	-0.043 ***
Diversity: Gender ^c	0.173	(0.160)	20,411	0.262	(0.147)	9,090	-0.089 ***	0.177	(0.160)	20,562	0.254	(0.152)	8,939	-0.077 ***
Diversity: Age ^c	0.574	(0.136)	20,411	0.573	(0.124)	9,090	0.001	0.574	(0.135)	20,562	0.574	(0.127)	8,939	0.001 ***
Diversity: Tenure ^c	0.571	(0.219)	20,411	0.615	(0.210)	9,090	-0.044 ***	0.568	(0.222)	20,562	0.621	(0.202)	8,939	-0.053 ***
Diversity: Nationality ^c	0.092	(0.174)	20,411	0.131	(0.192)	9,090	-0.039 ***	0.090	(0.174)	20,562	0.134	(0.192)	8,939	-0.044 ***
Diversity: Network Size ^c	0.664	(0.121)	20,411	0.648	(0.110)	9,090	0.016 ***	0.663	(0.121)	20,562	0.650	(0.109)	8,939	0.013 ***
Diversity: Board Independence ^c	0.172	(0.197)	20,411	0.118	(0.171)	9,090	0.053 ***	0.169	(0.196)	20,562	0.123	(0.173)	8,939	0.046 ***
Diversity: Number of Qualifications ^c	0.598	(0.138)	20,411	0.607	(0.125)	9,090	-0.009 ***	0.599	(0.138)	20,562	0.606	(0.125)	8,939	-0.007 ***
Diversity: Ethnicity ^c	0.232	(0.194)	10,315	0.216	(0.175)	6,134	0.016 ***	0.225	(0.193)	10,132	0.227	(0.178)	6,317	-0.001
Diversity: Attendance ^c	0.013	(0.054)	10,315	0.011	(0.046)	6,134	0.003 ***	0.014	(0.054)	10,132	0.011	(0.045)	6,317	0.003 ***

Note. Standard errors are in parentheses; Reported are the results from the univariate analysis by dividing the sample into high and low (factor) ESG firms. Variables denoted with an a, b, c are used as matching criteria. a is used in all matching procedures. b is only used for matching with Tobin's Q as outcome variable. c is used in all models except for models presented in Section 4.4; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Another way of dealing with endogeneity is by using an exogenous shock via a regression discontinuity design (RDD) or Difference-in-Difference (DiD) method. A RDD is rarely used in ESG studies since it is difficult to find a setting where treatment is not random (e.g. there are no ESG performance laws, except some laws about ESG performance disclosure). Flammer (2015) is a notable exception, as she uses a RDD around close call shareholder-initiated CSR proposals. A few studies use a DiD design around the latest financial crisis (e.g. Hong et al., 2015; Lins et al., 2017; Buchanan et al., 2018). Although this provides interesting insights, it is also chosen from a traditional shareholder perspective. Some argue that during a crisis CSR implementation costs are magnified (Hong et al., 2015) or consumer trust is more important, which is positively influenced by ESG performance (Lins et al., 2017). However, in such an exogenous shock the focus of investors is more on their interests (e.g. maximum profits, the future of the company, etc.) and less on the (fiduciary) relationship with stakeholders. If anything, the relationship with stakeholders might even become less important for management and shareholders in such an event.

It is therefore interesting to examine what happens when stakeholders are tightening the relationship with firms. The Paris Climate Agreement in December 2015 is arguably one of the most tangible events of changing norms and beliefs and a tangible request from stakeholders to firms. As hypothesized in Section 2, investors could only be interested in matters that directly influence (future) profits, thereby only pricing in potential costs related to the environment without any change in their perceptions and preferences of ESG performance. On the other hand, the Paris Agreement can also act as a wake-up call of sorts for investors, whereby, investors realize that stakeholders are taking a more pressing role. This can lead to a revaluation of all factors and domains of ESG performance.

Part IV: Results

It is imperative to include the right control variables when analyzing the effect of ESG performance on financial performance. However, board characteristic variables used in corporate governance studies are often missing, despite the proven significant effects of gender diversity, board size, board independence and other director characteristics on financial performance (e.g. Adams & Ferreira, 2009; Ahern & Dittmar, 2012; Terjesen et al., 2016; Bennouri et al., 2018; Bennedsen et al., 2019). Therefore, all models contain the board diversity measures as described in Section 3.1.3, apart from diversity in terms of ethnicity and attendance. These two variables are excluded as they are not known for all observations. The results are robust to including both additional diversity measures. Furthermore, the results are robust to the inclusion of R&D intensity, ownership characteristics, different scales of financial control variables (all variables as defined in Table 1) and industry definition (three-digit SIC code) for all performed model specifications. The sign and significance remain unchanged, whereas the size of the coefficients only marginally differs when including one or more robustness checks.

4.1 ESG performance and financial performance.

Before possible mediation and moderation effects can be analyzed, it is important to first estimate the total effect of ESG performance on financial performance. This is especially important since there is no consensus on the sign of the effect in academic literature. Therefore, Table 6 (7) reports the results of the overall ESG performance on a firm's Tobin's Q (ROA). In both tables, Panel A reports the results of ESG performance constructed with equal weights and Panel B ESG performance constructed with factor weights.

At first glance, (factor) ESG performance appears to have a significant and large positive influence on the valuation from shareholders (Column 1). However, once the model is adjusted for some endogeneity, by including a one-year lagged Tobin's Q and firm fixed effects, the effect is negative and small. Moreover, it is only significant at the 10% level instead of the 1% level in Columns 1. These opposing results can be due to uncontrolled endogeneity in both estimated models. Therefore, Columns 3 and 4 report the results from the instrumental variable method. As described in Section 3.5, the instrument is defined as the fraction of board directors that sit on other boards which have a high (above mean) (factor) ESG performance. The instrument captures norms and values through social connections from directors of the firm. As such, a higher fraction of directors with connections with high ESG firms would result in a higher ESG performance. In the first stage of both ESG performance measures the instrument is indeed significantly positive (Column 3). Moreover, in the second stage the instrument effect of (factor) ESG on the Tobin's Q is now significantly positive again (Column 4). However, sample selection bias and unobservable heterogeneity between firms might still be present in the specified models. Therefore, the models are also performed over the matched sample in Columns 5-8 as described in Section 3.5.

Table 6

Overall (Factor) ESG Performance and Long-term Financial Performance (Tobin's Q)

Independent Variable	Unmatched				Matched			
	Tobin's Q		ESG	Tobin's Q	Tobin's Q		ESG	Tobin's Q
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG	0.035 (0.003) ***	-0.005 (0.003) *		0.093 (0.010) ***	0.033 (0.004) ***	-0.003 (0.004)		0.050 (0.012) ***
Connections with high ESG firms			4.312 (0.075) ***				4.373 (0.092) ***	
Lag Tobin's Q		0.411 (0.005) ***				0.418 (0.008) ***		
Size (Assets)	-0.183 (0.007) ***	-0.437 (0.012) ***	0.106 (0.012) ***	-0.197 (0.008) ***	-0.146 (0.010) ***	-0.422 (0.020) ***	-0.013 (0.018)	-0.148 (0.010) ***
Sales growth rate	0.784 (0.041) ***	0.286 (0.021) ***	0.157 (0.040) ***	0.781 (0.041) ***	0.779 (0.063) ***	0.246 (0.032) ***	0.030 (0.063)	0.781 (0.063) ***
CAPEX	3.317 (0.216) ***	0.708 (0.162) ***	1.066 (0.240) ***	3.241 (0.216) ***	3.845 (0.313) ***	0.432 (0.258) *	0.859 (0.422) **	3.826 (0.312) ***
Book Leverage	-0.165 (0.051) ***	-0.393 (0.036) ***	-0.483 (0.048) ***	-0.140 (0.051) ***	-0.268 (0.073) ***	-0.454 (0.058) ***	-0.244 (0.076) ***	-0.267 (0.072) ***
Profitability	1.553 (0.106) ***	0.684 (0.051) ***	0.088 (0.075)	1.545 (0.105) ***	2.261 (0.168) ***	0.818 (0.084) ***	0.494 (0.131) ***	2.250 (0.168) ***
Liquidity	3.017 (0.070) ***	0.859 (0.058) ***	0.339 (0.066) ***	2.984 (0.070) ***	3.444 (0.114) ***	0.647 (0.095) ***	0.084 (0.109)	3.442 (0.114) ***
Cash Dividends	0.176 (0.019) ***	0.063 (0.022) ***	-0.079 (0.031) **	0.178 (0.019) ***	0.218 (0.029) ***	0.027 (0.034)	-0.210 (0.048) ***	0.220 (0.029) ***
Liquidity#Cash Dividends	-0.284 (0.120) **	0.067 (0.082)	1.468 (0.153) ***	-0.367 (0.120) ***	-0.797 (0.178) ***	0.299 (0.124) **	1.426 (0.234) ***	-0.818 (0.178) ***
Board size	0.022 (0.003) ***	0.007 (0.004)	0.030 (0.006) ***	0.019 (0.003) ***	0.026 (0.005) ***	0.009 (0.006)	-0.021 (0.009) **	0.026 (0.005) ***
Diversity: Current Directorships	0.243 (0.041) ***	0.090 (0.037) **	-0.402 (0.060) ***	0.245 (0.041) ***	0.167 (0.061) ***	0.110 (0.056) **	-0.371 (0.097) ***	0.164 (0.061) ***
Diversity: Past Directorships	0.054 (0.046)	0.001 (0.047)	-0.495 (0.061) ***	0.056 (0.046)	0.121 (0.066) *	0.016 (0.072)	-0.451 (0.098) ***	0.116 (0.066) *
Diversity: Gender	0.406 (0.048) ***	0.080 (0.049)	1.042 (0.068) ***	0.311 (0.051) ***	0.432 (0.072) ***	0.109 (0.073)	0.470 (0.106) ***	0.415 (0.073) ***
Diversity: Age	-0.163 (0.051) ***	-0.073 (0.040) *	0.229 (0.078) ***	-0.159 (0.052) ***	-0.048 (0.078)	-0.040 (0.059)	0.349 (0.126) ***	-0.048 (0.078)
Diversity: Tenure	-0.071 (0.035) **	0.067 (0.035) *	0.352 (0.046) ***	-0.090 (0.036) **	-0.056 (0.051)	0.052 (0.054)	0.307 (0.071) ***	-0.060 (0.051)
Diversity: Nationality	0.031 (0.042)	-0.070 (0.042) *	0.360 (0.065) ***	0.009 (0.042)	-0.019 (0.058)	-0.011 (0.060)	0.122 (0.096)	-0.019 (0.057)
Diversity: Network Size	-0.275 (0.060) ***	-0.073 (0.057)	-0.942 (0.092) ***	-0.203 (0.061) ***	-0.282 (0.092) ***	-0.127 (0.086)	-0.245 (0.140) *	-0.274 (0.092) ***
Diversity: Board Independence	0.016 (0.039)	-0.063 (0.049)	-0.075 (0.062)	0.023 (0.039)	0.103 (0.058) *	-0.164 (0.081) **	-0.122 (0.104)	0.108 (0.058) *
Diversity: Number of Qualifications	-0.058 (0.052)	-0.042 (0.054)	-0.062 (0.074)	-0.044 (0.052)	-0.147 (0.079) *	-0.050 (0.083)	-0.043 (0.119)	-0.143 (0.079) *
Constant	3.508 (0.176) ***	4.684 (0.106) ***	-2.775 (0.353) ***	3.725 (0.188) ***	3.296 (0.308) ***	4.762 (0.171) ***	-2.130 (0.667) ***	3.342 (0.316) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	YES	YES	NO	YES	YES
Firm fixed effects	NO	YES	NO	NO	NO	YES	NO	NO
N	29,501	28,769	29,051	29,501	13,844	13,498	13,844	13,844
R ²	0.458	0.357	0.377	0.453	0.485	0.351	0.243	0.484
Adjusted R ²	0.456		0.374	0.451	0.481		0.237	0.481
Kleibergen-Paap rk LM statistic)				2,690.064				1,826.807
Kleibergen-Paap rk Wald F statistic)				3,326.282				2,242.732
Regression type	OLS	Fixed Effects	First stage IV	Second stage IV	OLS	Fixed Effects	First stage IV	Second stage IV

(Continued)

Table 6: Continued

Overall (Factor) ESG Performance and Long-term Financial Performance (Tobin's Q)

Panel B: Factor Weights ESG

Independent variable	Unmatched				Matched			
	Tobin's Q		Factor ESG	Tobin's Q	Tobin's Q		Factor ESG	Tobin's Q
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Factor ESG	0.079 (0.006) ***	-0.009 (0.005) *		0.182 (0.020) ***	0.062 (0.007) ***	-0.007 (0.006)		0.105 (0.025) ***
Connections with high factor ESG firms			2.100 (0.039) ***				2.118 (0.048) ***	
Lag Tobin's Q		0.411 (0.005) ***				0.424 (0.008) ***		
Size (Assets)	-0.190 (0.007) ***	-0.436 (0.012) ***	0.123 (0.007) ***	-0.211 (0.008) ***	-0.145 (0.010) ***	-0.412 (0.018) ***	0.029 (0.010) ***	-0.149 (0.010) ***
Sales growth rate	0.785 (0.041) ***	0.287 (0.021) ***	0.073 (0.020) ***	0.785 (0.041) ***	0.862 (0.065) ***	0.318 (0.031) ***	0.102 (0.036) ***	0.861 (0.065) ***
CAPEX	3.302 (0.215) ***	0.710 (0.162) ***	0.612 (0.126) ***	3.223 (0.215) ***	3.738 (0.314) ***	0.568 (0.237) **	0.553 (0.216) **	3.710 (0.312) ***
Book Leverage	-0.163 (0.050) ***	-0.393 (0.036) ***	-0.248 (0.025) ***	-0.142 (0.051) ***	-0.234 (0.071) ***	-0.294 (0.055) ***	-0.108 (0.043) **	-0.234 (0.070) ***
Profitability	1.555 (0.106) ***	0.684 (0.051) ***	0.002 (0.038)	1.551 (0.105) ***	2.380 (0.168) ***	0.691 (0.080) ***	0.143 (0.070) **	2.374 (0.167) ***
Liquidity	3.003 (0.070) ***	0.859 (0.058) ***	0.301 (0.034) ***	2.960 (0.070) ***	3.181 (0.111) ***	0.876 (0.088) ***	0.102 (0.060) *	3.176 (0.111) ***
Cash Dividends	0.175 (0.019) ***	0.063 (0.022) ***	-0.028 (0.016) *	0.177 (0.019) ***	0.177 (0.029) ***	0.066 (0.031) **	-0.046 (0.025) *	0.179 (0.029) ***
Liquidity#Cash Dividends	-0.293 (0.119) **	0.067 (0.082)	0.729 (0.082) ***	-0.371 (0.119) ***	-0.559 (0.178) ***	0.035 (0.115)	0.596 (0.123) ***	-0.585 (0.177) ***
Board size	0.022 (0.003) ***	0.007 (0.004)	0.016 (0.003) ***	0.018 (0.003) ***	0.021 (0.004) ***	0.006 (0.006)	0.000 (0.005)	0.020 (0.004) ***
Diversity: Current Directorships	0.241 (0.040) ***	0.090 (0.037) **	-0.184 (0.032) ***	0.241 (0.041) ***	0.203 (0.057) ***	0.085 (0.053)	-0.133 (0.052) **	0.199 (0.057) ***
Diversity: Past Directorships	0.051 (0.046)	0.002 (0.047)	-0.211 (0.031) ***	0.048 (0.046)	0.075 (0.066)	-0.140 (0.068) **	-0.324 (0.054) ***	0.074 (0.066)
Diversity: Gender	0.421 (0.048) ***	0.079 (0.049)	0.288 (0.036) ***	0.364 (0.049) ***	0.293 (0.069) ***	-0.036 (0.069)	0.267 (0.059) ***	0.270 (0.070) ***
Diversity: Age	-0.159 (0.051) ***	-0.074 (0.040) *	0.057 (0.041)	-0.150 (0.052) ***	-0.111 (0.076)	-0.037 (0.055)	0.100 (0.067)	-0.109 (0.076)
Diversity: Tenure	-0.074 (0.035) **	0.067 (0.035) *	0.179 (0.024) ***	-0.093 (0.036) ***	-0.047 (0.050)	0.002 (0.051)	0.173 (0.039) ***	-0.054 (0.050)
Diversity: Nationality	0.029 (0.042)	-0.070 (0.042) *	0.197 (0.035) ***	0.008 (0.042)	0.096 (0.056) *	-0.042 (0.056)	0.099 (0.052) *	0.094 (0.056) *
Diversity: Network Size	-0.264 (0.060) ***	-0.073 (0.057)	-0.529 (0.050) ***	-0.194 (0.061) ***	-0.381 (0.091) ***	0.001 (0.083)	-0.185 (0.077) **	-0.366 (0.091) ***
Diversity: Board Independence	0.017 (0.039)	-0.063 (0.049)	-0.040 (0.033)	0.025 (0.039)	0.183 (0.057) ***	-0.149 (0.073) **	0.002 (0.056)	0.185 (0.057) ***
Diversity: Number of Qualifications	-0.053 (0.052)	-0.043 (0.054)	-0.071 (0.038) *	-0.036 (0.052)	-0.183 (0.073) **	-0.005 (0.077)	-0.048 (0.064)	-0.178 (0.073) **
Constant	3.548 (0.175) ***	4.684 (0.106) ***	-1.552 (0.170) ***	3.771 (0.185) ***	3.352 (0.248) ***	4.594 (0.163) ***	-1.356 (0.262) ***	3.427 (0.257) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	YES	YES	NO	YES	YES
Firm fixed effects	NO	YES	NO	NO	NO	YES	NO	NO
N	29,501	28,769	29,501	29,501	14,042	13,650	14,042	14,042
R ²	0.459	0.357	0.333	0.454	0.475	0.382	0.247	0.474
Adjusted R ²	0.457		0.331	0.452	0.471		0.242	0.470
Kleibergen-Paap rk LM statistic				2,524.434				1,634.139
Kleibergen-Paap rk Wald F statistic				2,917.573				1,929.967
Regression type	OLS	Fixed Effects	First stage IV	Second stage IV	OLS	Fixed Effects	First stage IV	Second stage IV

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1 and 5 report the baseline model, Columns 2 and 6 the model with a one year lagged dependent variable and firm fixed effects, Columns 3 and 7 the first stage of the instrument variable (IV) regression and Columns 4 and 8 the second stage of the instrumental variable (IV) regression. All specifications include year and industry (two-digit SIC code) dummies except columns 2 and 6 as they have firm fixed effects instead of industry dummies; All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

What is evident is that the matched sample coefficients are smaller (less positive and negative) compared to the unmatched sample, but do not lead to different conclusions. The difference is most pronounced for the instrumental variable method, for equal weights ESG performance the coefficient drops to 0.50 from 0.93 and for factor ESG performance to 0.105 from 0.182.

Table 7 presents similar models as in Table 6, but these models are instead regressed on ROA as a financial performance measure. In all models, the effect of ESG performance on ROA is at least positive, though insignificant in the firm fixed effects models (Columns 2 and 6). Contrary to the Tobin's Q models, the matched sample reports larger coefficients than the unmatched sample. The results from Table 6 and 7 indicate that overall (factor) ESG performance leads to an increase in short-term (ROA) and long-term (Tobin's Q) performance. This is supporting the results from, among others, Konar and Cohen, 2010; Flammer, 2015; Krüger, 2015; Waddock and Graves, 1997; Hill and Keim, 2001; Luo and Bhattacharya, 2006; Bird et al., 2007; Ferrell et al., 2016; Lins et al., 2017; Buchanan et al., 2018. The results also hint that previous studies have overlooked an important assumption. Almost all aforementioned studies only use an overall ESG variable that assumes equal weighting. The results in Table 6 and 7, indicate that this might lead to inaccurate conclusions. The ESG coefficients are about twice as large for factor ESG compared to equal weights ESG. In part this is due to the different weighting which results in a lesser spread of the variable. But it can also be due to the relative importance of the ESG domains or the different effects of ESG strengths and concerns.

To investigate such differences, ESG performance is divided into strength and concern scores of the individual domains. Table 8 reports distinct differences between domains. The Environment domain shows insignificant results for both strengths and concerns. Increasing the Environment score of a firm does create value but that extra value is offset by its extra associated costs. This view is supported by the results on short-term financial performance. Environmental concerns do not affect the ROA of a firm. On the other hand, there is some indication that Environmental strengths do increase the profitability of the firm, but in the models controlling for reverse causality (the firm fixed effects models, Columns 2, 4, 6 and 8) the coefficient is small, negative and insignificant. Thus, in the worst-case scenario benefits from Environmental ESG performance are offset by its costs. Moreover, this pattern is also present in the Community, Product and Corporate Governance domains.

The results from the Human Rights domain are at first glance counterintuitive. Firms that behave well in terms of Human Rights decrease or "destroy" value. Human Rights strengths significantly decrease short- and long-term financial performance whereas Human Rights concerns increase short- and long-term financial performance. Of course, it is in the eye of the beholder to discern why this pattern is present. On the one side, advocates will argue that investing in good Human Rights performance is costly and results in the destruction of value. Others will argue that firms that do not uphold Human Rights are exploiting citizens, employees, etc. The found pattern in Human Rights might also be due to unseen violations by shareholders and/or management.

Table 7

Overall (Factor) ESG Performance and Short-term Financial Performance (ROA)

Independent Variable	Unmatched				Matched			
	ROA		ESG	ROA	ROA		ESG	ROA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG	0.082 (0.028) ***	-0.026 (0.025)		0.319 (0.095) ***	0.207 (0.037) ***	0.005 (0.033)		0.355 (0.113) ***
Connections with high ESG firms			4.308 (0.075) ***				4.409 (0.094) ***	
Lag ROA		0.451 (0.005) ***				0.387 (0.009) ***		
Size (Assets)	1.505 (0.073) ***	-0.109 (0.111)	0.108 (0.012) ***	1.444 (0.078) ***	1.137 (0.100) ***	-0.641 (0.174) ***	-0.009 (0.017)	1.120 (0.101) ***
Sales growth rate	5.027 (0.469) ***	10.664 (0.186) ***	0.161 (0.040) ***	5.014 (0.468) ***	5.019 (0.676) ***	10.344 (0.284) ***	0.116 (0.066) *	5.021 (0.674) ***
CAPEX	8.631 (2.235) ***	-2.262 (1.473)	1.076 (0.240) ***	8.313 (2.239) ***	13.479 (3.410) ***	1.824 (2.368)	0.825 (0.422) *	13.290 (3.402) ***
Book Leverage	-9.111 (0.547) ***	-4.574 (0.322) ***	-0.496 (0.046) ***	-9.005 (0.549) ***	-6.444 (0.768) ***	-3.240 (0.512) ***	-0.308 (0.075) ***	-6.420 (0.766) ***
Liquidity	-27.836 (0.713) ***	3.402 (0.522) ***	0.318 (0.064) ***	-27.963 (0.714) ***	-27.540 (1.098) ***	4.602 (0.855) ***	-0.017 (0.106)	-27.545 (1.094) ***
Cash Dividends	-1.658 (0.189) ***	-0.170 (0.200)	-0.081 (0.031) ***	-1.649 (0.189) ***	-1.683 (0.278) ***	-0.160 (0.304)	-0.149 (0.048) ***	-1.664 (0.277) ***
Liquidity#Cash Dividends	35.654 (1.116) ***	4.552 (0.743) ***	1.497 (0.150) ***	35.300 (1.117) ***	37.741 (1.588) ***	4.931 (1.126) ***	1.444 (0.227) ***	37.535 (1.585) ***
Board size	-0.262 (0.034) ***	-0.141 (0.038) ***	0.030 (0.006) ***	-0.278 (0.035) ***	-0.117 (0.046) **	-0.079 (0.053)	-0.017 (0.009)	-0.119 (0.046) ***
Diversity: Current Directorships	-3.325 (0.412) ***	-0.425 (0.336)	-0.402 (0.060) ***	-3.316 (0.412) ***	-3.795 (0.576) ***	-0.972 (0.513) *	-0.553 (0.096) ***	-3.783 (0.575) ***
Diversity: Past Directorships	0.229 (0.457)	-0.386 (0.425)	-0.499 (0.061) ***	0.237 (0.457)	-0.354 (0.650)	-0.842 (0.653)	-0.393 (0.098) ***	-0.409 (0.650)
Diversity: Gender	1.274 (0.477) ***	0.449 (0.444)	1.045 (0.068) ***	0.880 (0.503) *	1.258 (0.679) *	-0.128 (0.658)	0.547 (0.108) ***	1.099 (0.693)
Diversity: Age	-1.184 (0.500) **	-0.343 (0.362)	0.230 (0.078) ***	-1.167 (0.500) **	-1.704 (0.723) **	-0.310 (0.543)	0.282 (0.128) **	-1.698 (0.721) **
Diversity: Tenure	2.061 (0.363) ***	0.796 (0.316) **	0.353 (0.046) ***	1.981 (0.363) ***	3.328 (0.512) ***	1.274 (0.479) ***	0.286 (0.070) ***	3.293 (0.511) ***
Diversity: Nationality	-1.256 (0.420) ***	-0.515 (0.380)	0.360 (0.065) ***	-1.349 (0.421) ***	-1.115 (0.567) **	-1.178 (0.547) **	0.146 (0.097)	-1.121 (0.566) **
Diversity: Network Size	1.404 (0.605) **	-0.770 (0.520)	-0.939 (0.092) ***	1.699 (0.617) ***	2.129 (0.837) **	-0.236 (0.773)	-0.351 (0.142) **	2.227 (0.838) ***
Diversity: Board Independence	-0.567 (0.373)	-1.215 (0.441) ***	-0.074 (0.062)	-0.536 (0.373)	-0.603 (0.515)	-1.114 (0.716)	-0.179 (0.106) *	-0.551 (0.516)
Diversity: Number of Qualifications	-1.592 (0.520) ***	0.776 (0.490)	-0.068 (0.074)	-1.533 (0.520) ***	-2.297 (0.733) ***	-0.601 (0.744)	0.064 (0.118)	-2.273 (0.730) ***
Constant	4.437 (1.019) ***	5.657 (0.946) ***	-2.775 (0.353) ***	5.332 (1.098) ***	5.331 (1.809) ***	9.165 (1.509) ***	-1.286 (0.564) ***	5.604 (1.852) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	YES	YES	NO	YES	YES
Firm fixed effects	NO	YES	NO	NO	NO	YES	NO	NO
N	29,457	29,443	29,457	29,457	13,814	13,807	13,814	13,814
R ²	0.332	0.301	0.377	0.330	0.343	0.245	0.247	0.343
Adjusted R ²	0.329		0.375	0.328	0.338		0.241	0.338
Kleibergen-Paap rk LM statistic)				2,679.063				1,792.790
Kleibergen-Paap rk Wald F statistic)				3,316.163				2,210.857
Regression type	OLS	Fixed Effects	First stage IV	Second stage IV	OLS	Fixed Effects	First stage IV	Second stage IV

(Continued)

Table 7: Continued

Overall (Factor) ESG Performance and Short-term Financial Performance (ROA)

Independent Variable	Unmatched				Matched			
	ROA		Factor ESG	ROA	ROA		Factor ESG	ROA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Factor ESG	0.143 (0.052) ***	-0.057 (0.046)		0.818 (0.194) ***	0.419 (0.065) ***	0.013 (0.059)		0.685 (0.233) ***
Connections with high factor ESG firms			2.098 (0.039) ***				2.113 (0.049) ***	
Lag ROA		0.451 (0.005) ***				0.396 (0.008) ***		
Size (Assets)	1.497 (0.074) ***	-0.108 (0.111)	0.123 (0.007) ***	1.355 (0.087) ***	1.212 (0.100) ***	-0.604 (0.168) ***	0.030 (0.010) ***	1.188 (0.102) ***
Sales growth rate	5.03 (0.469) ***	10.665 (0.186) ***	0.073 (0.020) ***	5.028 (0.469) ***	6.387 (0.674) ***	11.052 (0.276) ***	0.128 (0.035) ***	6.367 (0.670) ***
CAPEX	8.628 (2.234) ***	-2.255 (1.473)	0.614 (0.126) ***	8.1 (2.238) ***	5.090 (3.446)	3.362 (2.212)	0.687 (0.228) ***	4.890 (3.438)
Book Leverage	-9.116 (0.547) ***	-4.577 (0.322) ***	-0.248 (0.024) ***	-8.972 (0.550) ***	-6.632 (0.754) ***	-4.654 (0.492) ***	-0.105 (0.041) **	-6.627 (0.752) ***
Liquidity	-27.851 (0.713) ***	3.404 (0.522) ***	0.300 (0.033) ***	-28.129 (0.719) ***	-25.208 (1.054) ***	3.494 (0.805) ***	0.071 (0.057)	-25.224 (1.050) ***
Cash Dividends	-1.659 (0.189) ***	-0.171 (0.200)	-0.029 (0.016) *	-1.648 (0.189) ***	-1.071 (0.274) ***	0.234 (0.290)	-0.068 (0.026) ***	-1.056 (0.273) ***
Liquidity#Cash Dividends	35.666 (1.116) ***	4.551 (0.743) ***	0.731 (0.081) ***	35.146 (1.118) ***	34.178 (1.653) ***	4.340 (1.060) ***	0.770 (0.128) ***	33.960 (1.651) ***
Board size	-0.262 (0.034) ***	-0.141 (0.038) ***	0.017 (0.003) ***	-0.286 (0.035) ***	-0.109 (0.044) **	-0.005 (0.051)	-0.003 (0.005)	-0.113 (0.044) ***
Diversity: Current Directorships	-3.329 (0.412) ***	-0.425 (0.336)	-0.182 (0.032) ***	-3.329 (0.412) ***	-3.807 (0.564) ***	-0.083 (0.482)	-0.157 (0.051) ***	-3.825 (0.563) ***
Diversity: Past Directorships	0.223 (0.457)	-0.385 (0.425)	-0.213 (0.031) ***	0.204 (0.458)	0.016 (0.643)	-0.765 (0.625)	-0.272 (0.054) ***	-0.002 (0.641)
Diversity: Gender	1.331 (0.476) ***	0.44 (0.444)	0.289 (0.036) ***	0.958 (0.489) **	1.198 (0.642) *	0.800 (0.633)	0.336 (0.060) ***	1.038 (0.658)
Diversity: Age	-1.177 (0.500) **	-0.346 (0.362)	0.055 (0.041)	-1.117 (0.501) **	-1.102 (0.677)	-1.064 (0.517) **	0.069 (0.066)	-1.078 (0.677)
Diversity: Tenure	2.061 (0.363) ***	0.798 (0.316) **	0.178 (0.024) ***	1.935 (0.364) ***	2.900 (0.513) ***	0.929 (0.473) **	0.158 (0.038) ***	2.869 (0.512) ***
Diversity: Nationality	-1.253 (0.420) ***	-0.515 (0.380)	0.198 (0.035) ***	-1.392 (0.422) ***	-1.145 (0.534) **	-0.219 (0.518)	0.135 (0.051) ***	-1.164 (0.534) **
Diversity: Network Size	1.401 (0.605) **	-0.771 (0.520)	-0.529 (0.050) ***	1.862 (0.620) ***	2.024 (0.892) **	-0.734 (0.759)	-0.145 (0.077) *	2.104 (0.891) **
Diversity: Board Independence	-0.566 (0.373)	-1.216 (0.441) ***	-0.041 (0.033)	-0.514 (0.374)	-1.369 (0.516) ***	-1.098 (0.675)	0.057 (0.057)	-1.373 (0.515) ***
Diversity: Number of Qualifications	-1.587 (0.520) ***	0.773 (0.490)	-0.074 (0.038) *	-1.471 (0.521) ***	-4.210 (0.706) ***	-1.158 (0.723)	-0.001 (0.062)	-4.188 (0.704) ***
Constant	4.441 (1.021) ***	5.658 (0.946) ***	-1.550 (0.170) ***	5.911 (1.130) ***	5.246 (1.584) ***	9.794 (1.489) ***	-1.398 (0.267) ***	5.719 (1.652) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	YES	YES	NO	YES	YES
Firm fixed effects	NO	YES	NO	NO	NO	YES	NO	NO
N	29,457	29,443	29,457	29,457	14,112	14,108	14,112	14,112
R ²	0.332	0.301	0.333	0.329	0.329	0.276	0.250	0.328
Adjusted R ²	0.329		0.331	0.327	0.324		0.244	0.323
Kleibergen-Paap rk LM statistic				2,513.770				1,586.994
Kleibergen-Paap rk Wald F statistic				2,905.385				1,870.408
Regression type	OLS	Fixed Effects	First stage IV	Second stage IV	OLS	Fixed Effects	First stage IV	Second stage IV

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1 and 5 report the baseline model, Columns 2 and 6 the model with a one year lagged dependent variable and firm fixed effects, Columns 3 and 7 the first stage of the instrument variable (IV) regression and Columns 4 and 8 the second stage of the instrumental variable (IV) regression. All specifications include year and industry (two-digit SIC code) dummies except columns 2 and 6 as they have firm fixed effects instead of industry dummies; All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 8

ESG Performance per Domain and Financial Performance (Tobin's Q and ROA)

Independent Variable	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Environment Strength	0.047 (0.010) ***	-0.002 (0.008)	0.007 (0.013)	-0.005 (0.011)	0.360 (0.091) ***	-0.060 (0.076)	0.570 (0.118) ***	-0.002 (0.101)
Environment Concern	0.011 (0.010)	0.029 (0.013) **	0.011 (0.014)	0.015 (0.019)	0.165 (0.115)	0.163 (0.115)	0.148 (0.159)	0.125 (0.166)
Community Strength	0.122 (0.016) ***	-0.004 (0.015)	0.116 (0.020) ***	-0.011 (0.019)	-0.162 (0.153)	-0.167 (0.140)	-0.172 (0.186)	-0.139 (0.168)
Community Concern	0.073 (0.020) ***	0.038 (0.024)	0.076 (0.027) ***	0.013 (0.033)	-0.010 (0.218)	0.189 (0.215)	-0.147 (0.316)	0.136 (0.300)
Human Rights Strength	-0.070 (0.027) **	-0.048 (0.028) *	-0.051 (0.037)	-0.027 (0.038)	-2.872 (0.430) ***	-1.916 (0.256) ***	-2.126 (0.557) ***	-1.469 (0.334) ***
Human Rights Concern	0.074 (0.027) ***	0.045 (0.026) *	0.072 (0.036) **	0.029 (0.039)	0.365 (0.288)	0.718 (0.241) ***	0.829 (0.415) **	0.485 (0.357)
Employee Relations Strength	0.093 (0.009) ***	-0.004 (0.007)	0.094 (0.012) ***	-0.001 (0.008)	0.182 (0.073) **	0.056 (0.059)	0.410 (0.093) ***	0.068 (0.076)
Employee Relations Concern	-0.015 (0.011)	0.000 (0.010)	-0.011 (0.017)	0.008 (0.015)	-0.936 (0.121) ***	-0.184 (0.090) **	-0.989 (0.166) ***	-0.340 (0.138) **
Diversity Strength	0.064 (0.013) ***	0.011 (0.012)	0.032 (0.016) **	0.025 (0.015) *	-0.193 (0.124)	0.140 (0.106)	0.128 (0.159)	0.026 (0.138)
Diversity Concern	0.036 (0.016) **	0.001 (0.012)	0.032 (0.027)	-0.017 (0.019)	-0.005 (0.163)	-0.062 (0.109)	-0.284 (0.266)	-0.222 (0.176)
Product Strength	0.207 (0.022) ***	0.030 (0.015) *	0.222 (0.030) ***	0.023 (0.020)	0.285 (0.198)	0.026 (0.139)	-0.174 (0.263)	0.029 (0.174)
Product Concern	0.073 (0.013) ***	0.015 (0.013)	0.072 (0.019) ***	0.010 (0.018)	0.185 (0.127)	0.116 (0.119)	-0.253 (0.174)	0.172 (0.166)
Corporate Governance Strength	0.008 (0.017)	-0.013 (0.014)	0.012 (0.022)	-0.025 (0.019)	-0.118 (0.175)	0.045 (0.123)	-0.191 (0.230)	-0.133 (0.168)
Corporate Governance Concern	0.098 (0.014) ***	-0.010 (0.011)	0.052 (0.020) ***	0.006 (0.017)	-0.034 (0.149)	-0.245 (0.103) **	-0.205 (0.200)	-0.287 (0.157) *
Lag Tobin's Q		0.411 (0.005) ***		0.417 (0.008) ***				
Lag ROA						0.448 (0.005) ***		0.383 (0.009) ***
Size (Assets)	-0.259 (0.009) ***	-0.443 (0.012) ***	-0.210 (0.012) ***	-0.429 (0.020) ***	1.521 (0.091) ***	-0.101 (0.113)	1.151 (0.122) ***	-0.601 (0.176) ***
Sales growth rate	0.808 (0.041) ***	0.286 (0.021) ***	0.796 (0.063) ***	0.248 (0.032) ***	4.932 (0.469) ***	10.567 (0.187) ***	4.938 (0.677) ***	10.243 (0.285) ***
CAPEX	3.216 (0.210) ***	0.706 (0.162) ***	3.767 (0.307) ***	0.448 (0.258) *	8.591 (2.232) ***	-2.217 (1.471)	14.098 (3.401) ***	1.756 (2.366)
Book Leverage	-0.149 (0.050) ***	-0.397 (0.036) ***	-0.247 (0.072) ***	-0.451 (0.058) ***	-9.153 (0.548) ***	-4.629 (0.322) ***	-6.504 (0.768) ***	-3.314 (0.512) ***
Profitability	1.572 (0.104) ***	0.677 (0.051) ***	2.277 (0.167) ***	0.820 (0.084) ***				
Liquidity	2.899 (0.070) ***	0.864 (0.058) ***	3.319 (0.115) ***	0.653 (0.095) ***	-27.609 (0.714) ***	3.467 (0.522) ***	-27.364 (1.100) ***	4.696 (0.855) ***
Cash Dividends	0.178 (0.019) ***	0.062 (0.022) ***	0.215 (0.028) ***	0.029 (0.034)	-1.616 (0.189) ***	-0.180 (0.200)	-1.673 (0.276) ***	-0.163 (0.304)
Liquidity#Cash Dividends	-0.359 (0.118) ***	0.060 (0.082)	-0.814 (0.176) ***	0.292 (0.124) **	35.290 (1.116) ***	4.468 (0.743) ***	37.454 (1.588) ***	4.845 (1.125) ***
Board size	0.018 (0.003) ***	0.006 (0.004)	0.024 (0.005) ***	0.008 (0.006)	-0.255 (0.034) ***	-0.146 (0.038) ***	-0.121 (0.046) ***	-0.089 (0.053) *
Diversity: Current Directorships	0.227 (0.040) ***	0.087 (0.037) **	0.151 (0.061) **	0.106 (0.056) *	-3.330 (0.412) ***	-0.435 (0.336)	-3.755 (0.578) ***	-0.976 (0.514) *
Diversity: Past Directorships	0.042 (0.046)	0.002 (0.047)	0.116 (0.066) *	0.013 (0.073)	0.278 (0.458)	-0.317 (0.424)	-0.309 (0.652)	-0.774 (0.654)
Diversity: Gender	0.405 (0.049) ***	0.076 (0.050)	0.425 (0.072) ***	0.099 (0.073)	1.426 (0.491) ***	0.430 (0.446)	1.195 (0.686) *	-0.145 (0.659)
Diversity: Age	-0.140 (0.051) ***	-0.070 (0.040) *	-0.029 (0.077)	-0.036 (0.059)	-1.196 (0.499) **	-0.355 (0.362)	-1.712 (0.723) **	-0.388 (0.543)
Diversity: Tenure	-0.078 (0.035) **	0.065 (0.035) *	-0.059 (0.051)	0.051 (0.054)	2.019 (0.363) ***	0.771 (0.316) **	3.295 (0.512) ***	1.240 (0.479) **
Diversity: Nationality	0.011 (0.042)	-0.070 (0.042) *	-0.030 (0.057)	-0.005 (0.060)	-1.168 (0.419) ***	-0.539 (0.380)	-1.023 (0.569) *	-1.155 (0.547) **
Diversity: Network Size	-0.208 (0.059) ***	-0.074 (0.057)	-0.247 (0.091) ***	-0.126 (0.086)	1.308 (0.608) **	-0.719 (0.519)	2.085 (0.839) **	-0.164 (0.773)
Diversity: Board Independence	0.026 (0.038)	-0.070 (0.049)	0.108 (0.058) *	-0.173 (0.081) **	-0.595 (0.372)	-1.312 (0.441) ***	-0.644 (0.515)	-1.070 (0.717)
Diversity: Number of Qualifications	-0.043 (0.051)	-0.042 (0.054)	-0.130 (0.079)	-0.049 (0.083)	-1.614 (0.519) ***	0.741 (0.489)	-2.355 (0.733) ***	-0.648 (0.743)
Constant	3.672 (0.164) ***	4.725 (0.107) ***	3.339 (0.264) ***	4.804 (0.172) ***	4.726 (1.033) ***	5.687 (0.952) ***	5.474 (1.757) ***	9.126 (1.517) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,501	28,769	13,844	13,498	29,457	29,443	13,814	13,807
R ²	0.468	0.358	0.493	0.351	0.335	0.303	0.347	0.248
Adjusted R ²	0.466		0.489		0.332		0.341	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

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Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

If management and shareholders would knowingly exploit Human Rights, then they might also knowingly exploit Human Relations. However, the results do not support this expectation. There is some indication that Employee Relations strengths increase long-term performance (Columns 1 and 3), which seems in line with the effect on short-term performance as those coefficients are also positive and partially significant (Columns 5 and 7). The discrepancy lies on the concern side of Employee Relations. In both the unmatched and matched samples, Employee Relation concerns are significantly negative (Columns 5-8) with respect to short-term performance. Logically, long-term performance should then also show negative significant results. However, all models present insignificant results (Columns 1-4). Investors might have an incorrect impression of the true effects of Employee Relations concerns, as it is unlikely that more Employee Relations concern is beneficial for the future of the firm.

The Diversity domain reports insignificant results on the short-term, although, Diversity strengths do have a positive significant coefficient with respect to long-term performance. This opposing pattern could be due to shareholders expecting long-term benefits from current investments in Diversity or it could be that Diversity merely acts as positive image for investors.

Unlike Hillman and Keim (2001) and Cavaco and Crifo (2014), value is not solely created for ESG domains closely related to the firm. The Human Rights, Employee Relations and Diversity domain are all general domains that are not specific to an industry or firm. If anything, whether an ESG domain is closely related to the firm or industry is irrelevant. Human Rights, for example, are relevant for all firms as they are fundamental rights for any human but this ESG domain does create value.

To further investigate if there is a discrepancy between strengths and concerns, Table 9 presents the results of total strength and concern scores based on the factor weighting. Like the domain analysis, firms with more ESG concerns have a significantly higher Tobin's Q, while for strengths there is only some evidence of a positive significant effect on short- and long-term performance. However, there is evidence that concerns do significantly decrease short-term profitability (ROA). It seems conflicting that concerns decrease short-term performance but also increase long-term performance. Shareholders might only value firms on the expectation that more concerns translate into more cost-efficient firms than firms with less concerns but fail to recognize the negative effects on short-term performance. However, shareholders might also recognize that more concerns decrease short-term value, although, investors might have the expectation that the negative effect is only temporary.

4.2 Channels of ESG Performance

Although Tables 8 and 9 provide interesting insights, they do not indicate the channels through which ESG performance influences financial performance. Understanding these channels might also give a more detailed insight into the total effects and discrepancies of ESG performance. As with almost all financial variables, the measured effect almost never truly influences the dependent variable. For example, the size of the firm does not dictate how profitable the firm will be, but such variables do indicate the total amount of indirect effects.

Table 9

ESG Performance per Total Factor Strength & Concern and Financial Performance (Tobin's Q and ROA)

Independent Variable	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strengths	0.117 (0.006) ***	-0.002 (0.006)	0.092 (0.008) ***	-0.001 (0.007)	0.112 (0.056) **	-0.056 (0.051)	0.450 (0.068) ***	-0.010 (0.064)
Concerns	0.092 (0.010) ***	0.036 (0.010) ***	0.063 (0.013) ***	0.031 (0.013) **	-0.286 (0.100) ***	0.059 (0.088)	-0.293 (0.130) **	-0.109 (0.119)
Lag Tobin's Q		0.411 (0.005) ***		0.424 (0.008) ***				
Lag ROA						0.451 (0.005) ***		0.396 (0.008) ***
Size (Assets)	-0.247 (0.008) ***	-0.442 (0.012) ***	-0.189 (0.011) ***	-0.418 (0.018) ***	1.544 (0.088) ***	-0.109 (0.112)	1.168 (0.115) ***	-0.580 (0.170) ***
Sales growth rate	0.809 (0.041) ***	0.289 (0.021) ***	0.881 (0.065) ***	0.320 (0.031) ***	5.009 (0.469) ***	10.665 (0.186) ***	6.409 (0.675) ***	11.043 (0.276) ***
CAPEX	3.238 (0.211) ***	0.703 (0.162) ***	3.710 (0.310) ***	0.567 (0.237) **	8.680 (2.235) ***	-2.256 (1.473)	5.056 (3.443)	3.375 (2.212)
Book Leverage	-0.160 (0.050) ***	-0.395 (0.036) ***	-0.233 (0.070) ***	-0.293 (0.055) ***	-9.116 (0.547) ***	-4.577 (0.322) ***	-6.630 (0.755) ***	-4.653 (0.492) ***
Profitability	1.580 (0.105) ***	0.687 (0.051) ***	2.392 (0.166) ***	0.696 (0.080) ***				
Liquidity	2.924 (0.070) ***	0.859 (0.058) ***	3.114 (0.111) ***	0.878 (0.088) ***	-27.780 (0.713) ***	3.404 (0.522) ***	-25.275 (1.054) ***	3.497 (0.805) ***
Cash Dividends	0.164 (0.019) ***	0.062 (0.022) ***	0.164 (0.029) ***	0.066 (0.031) **	-1.649 (0.189) ***	-0.171 (0.200)	-1.085 (0.273) ***	0.233 (0.290)
Liquidity#Cash Dividends	-0.319 (0.119) ***	0.064 (0.082)	-0.571 (0.177) ***	0.032 (0.115)	35.681 (1.116) ***	4.550 (0.743) ***	34.173 (1.653) ***	4.347 (1.060) ***
Board size	0.017 (0.003) ***	0.006 (0.004)	0.016 (0.004) ***	0.006 (0.006)	-0.257 (0.034) ***	-0.141 (0.038) ***	-0.114 (0.044) ***	-0.004 (0.051)
Diversity: Current Directorships	0.236 (0.040) ***	0.089 (0.037) **	0.200 (0.057) ***	0.085 (0.053)	-3.323 (0.412) ***	-0.425 (0.336)	-3.815 (0.565) ***	-0.079 (0.482)
Diversity: Past Directorships	0.051 (0.046)	0.002 (0.047)	0.079 (0.066)	-0.140 (0.068) **	0.222 (0.457)	-0.385 (0.425)	0.020 (0.643)	-0.762 (0.625)
Diversity: Gender	0.389 (0.048) ***	0.077 (0.049)	0.265 (0.069) ***	-0.038 (0.069)	1.356 (0.476) ***	0.440 (0.444)	1.171 (0.643) *	0.799 (0.633)
Diversity: Age	-0.137 (0.051) ***	-0.072 (0.040) *	-0.093 (0.075)	-0.035 (0.055)	-1.195 (0.500) **	-0.346 (0.363)	-1.087 (0.677)	-1.076 (0.517) **
Diversity: Tenure	-0.069 (0.035) **	0.066 (0.035) *	-0.040 (0.050)	0.001 (0.051)	2.057 (0.363) ***	0.797 (0.316) **	2.908 (0.513) ***	0.932 (0.473) **
Diversity: Nationality	0.009 (0.042)	-0.068 (0.042)	0.080 (0.056)	-0.042 (0.056)	-1.237 (0.419) ***	-0.515 (0.380)	-1.161 (0.534) **	-0.225 (0.518)
Diversity: Network Size	-0.220 (0.060) ***	-0.073 (0.057)	-0.358 (0.091) ***	0.000 (0.083)	1.364 (0.607) **	-0.771 (0.520)	2.043 (0.892) **	-0.731 (0.759)
Diversity: Board Independence	0.024 (0.038)	-0.064 (0.049)	0.185 (0.057) ***	-0.150 (0.073) **	-0.572 (0.373)	-1.216 (0.441) ***	-1.362 (0.516) ***	-1.087 (0.675)
Diversity: Number of Qualifications	-0.039 (0.051)	-0.039 (0.054)	-0.183 (0.073) ***	-0.003 (0.077)	-1.599 (0.519) ***	0.773 (0.490)	-4.212 (0.707) ***	-1.169 (0.723)
Constant	3.622 (0.164) ***	4.712 (0.106) ***	3.357 (0.213) ***	4.621 (0.164) ***	4.378 (1.033) ***	5.661 (0.949) ***	5.290 (1.569) ***	9.673 (1.495) ***
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,501	28,769	14,042	13,650	29,457	29,443	14,112	14,108
R ²	0.465	0.358	0.479	0.382	0.332	0.301	0.329	0.276
Adjusted R ²	0.463		0.475		0.329		0.324	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Similarly, there are various ways through which ESG performance can create value. High ESG firms might find cheaper credit due to sustainable investment goals from banks, might be more cost efficient, increase consumer loyalty, increase brand image, etc. The options are in fact endless. However, there are two prominent channels that give a good indication on how ESG performance exactly creates value. The first is extra demand, and the second, the effect on labor satisfaction (measured through labor productivity).

To analyze these two channels as possible mediation effects, Structural Equation Modelling (SEM) is used. This type of modelling enables the simultaneous usage of multiple regressions. SEM estimates these equations with the variance matrix of the observed variables through maximum likelihood, while delivering the same point estimates and standard errors as would be obtained through OLS regressions. Using SEM allows to correctly estimate a (partial) mediation effect of the results presented in Tables 6-9. Resulting in the following generalized formula for the analyzed channels.

$$(4) M_{i,t} = \alpha + \beta_1 ESG_{i,t} + \beta_2 X_{i,t} + \sum Industry_t^i + \sum Year_t^i + \varepsilon_{it}$$

$$(5) Y_{i,t} = \alpha + \beta_1 ESG_{i,t} + \beta_2 M_{i,t} + \beta_3 X_{i,t} + \sum Industry_t^i + \sum Year_t^i + \varepsilon_{it}$$

Where $M_{i,t}$ stands for the mediation channel, $ESG_{i,t}$ for the respective ESG performance measure (can be more than one measure for domain or strength and concern analysis) and $X_{i,t}$ for a vector of control variables. Both formulas use the same control variables as used in previous models. Multiplying β_1 (ESG) from formula (4) by β_2 ($M_{i,t}$) from formula (5), gives the indirect effect (mediation effect) of ESG on financial performance ($Y_{i,t}$) through the mediation variable ($M_{i,t}$).

4.2.1 Extra demand as channel for ESG Performance

Arguably the most prominent channel occurs through the demand side. Some customers want firms to engage in philanthropy on their behalf as some types of philanthropy are too costly or inefficient for a single consumer (Bénabou & Tirole, 2010). Firms that engage in philanthropy on their behalf might thus generate extra sales or generate more consumer trust as advocated by Lins et al. (2017). Moreover, this channel also tells something about the actions of society. Under the assumption that ESG criteria are set by society and society/consumers also act on ESG performance, consumers should buy more from firms that conform to society's norms and values, irrespective of the ESG domain. It would be irrational to be against child labor but simultaneously consume products or services that are provided by child labor.

To measure extra demand, the previously used control variable sales growth is adjusted for the industry (two-digit SIC code) average of the respective year. Sales growth is adjusted since it then tells something about the relative performance in that year. If ESG performance indeed has a positive effect on sales growth, then high ESG performing firms would still have a positive industry-adjusted value in years where the entire industry shows negative growth rates. The adjusted variable thus gives a better estimate of the true effect of ESG performance. In unrepresented results adjusting for industry at the

three-digit SIC code reports similar results in sign and significance.

Appendix B (Tables 1 and 2) shows that both overall ESG performance measures give insignificant mediation effects for both Tobin's Q and ROA. Industry-adjusted sales growth and the overall ESG measures do have a significant positive direct effect on both Tobin's Q and ROA. However, the overall ESG measures have no significant direct effect on industry-adjusted sales growth, which is why there is no significant mediation effect. Consumers likely do not rate firms on their overall ESG performance before buying products or services. Alternatively, consumers look at their own ESG preferences and then investigate where to buy the product or service. For example, if you mainly care about the Environmental domain, you will likely investigate where to buy the most environmentally friendly car. That person may care less about how their personal data is secured. Similarly, when deciding to use a social media platform, cyber security and data protection might be on top of your list and giving back to the local community less. Therefore, Table 10 (11) presents the mediation results for a more detailed ESG analysis with Tobin's Q (ROA) as dependent variables. Both tables show ESG measures divided in domain strengths and concerns (Columns 1-4) and the total factor strength and concern scores (Columns 5-8).

The total factor strength and concern scores further support the idea that consumers do not look at the entire ESG spectrum but are more inclined to look at individual domains when deciding to buy products or services. Again this insignificant mediation effect is not due to a different model specification as the total effects on Tobin's and ROA in Tables 10 and 11 have similar significance and signs as in Tables 8 and 9.

Only Human Rights (strengths and concerns) and Product strengths have significant partial mediation effects. All other domains report insignificant results. Better ESG behavior in those domains does not result in extra demand and thus value. A likely reason is that (niche) companies outside of this sample attract those consumers instead. For instance, consumers that request sustainable food sources seem increasingly to opt for local farmers, bakers, butchers, etc. As these firms tend to not be listed, they are not in this sample, which could explain why there is no significant effect. Another reason could be that it is difficult as a consumer to evaluate how well the firm is performing in these ESG domains. Besides, even if consumers could accurately evaluate firms' ESG performance in these domains, it remains to be seen if that results in a clear ranking. Especially in the Environment domain, firms within an industry might have the same overall performance but due to different underlying ESG variables. In case two firms both have an Environment concern score of one but one is due to water stress (ENV_con_K) and the other due to Agriculture chemicals (ENV_con_E), then how do consumers choose? Choosing between these firms might be a choice between two kinds of "evil" where other (monetary) factors might become a deciding factor.

Consumers do, however, buy more from firms with good Human Rights behavior and buy less from firms with Human Rights concerns. This effect is -6.5 to -12% (-1.8 to -7.5%) for strengths and -2 to -4% (-14 to -31%) for concerns of the total effect on Tobin's Q (ROA). The percentages are negative

Table 10

ESG Performance per (Domain) Strength & Concern and Financial Performance (Tobin's Q) through Industry-Adjusted Sales Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Sales Growth</i>								
Environment Strength	-0.009 (0.007)	-0.012 (0.008)	-0.005 (0.009)	-0.007 (0.009)				
Environment Concern	-0.011 (0.010)	-0.013 (0.012)	0.007 (0.015)	0.006 (0.017)				
Community Strength	0.017 (0.012)	0.012 (0.016)	0.006 (0.015)	0.001 (0.019)				
Community Concern	0.006 (0.017)	0.004 (0.019)	-0.026 (0.025)	-0.031 (0.028)				
Human Rights Strength	0.127 (0.020) ***	0.131 (0.027) ***	0.095 (0.027) ***	0.099 (0.031) ***				
Human Rights Concern	-0.132 (0.022) ***	-0.135 (0.025) ***	-0.137 (0.031) ***	-0.137 (0.034) ***				
Employee Relations Strength	0.000 (0.005)	0.000 (0.005)	0.009 (0.006)	0.008 (0.006)				
Employee Relations Concern	0.003 (0.007)	0.001 (0.007)	0.000 (0.011)	-0.003 (0.011)				
Diversity Strength	0.003 (0.008)	-0.001 (0.011)	0.000 (0.011)	-0.002 (0.016)				
Diversity Concern	0.007 (0.009)	0.008 (0.010)	0.007 (0.015)	0.007 (0.015)				
Product Strength	-0.096 (0.016) ***	-0.108 (0.018) ***	-0.068 (0.018) ***	-0.078 (0.019) ***				
Product Concern	0.000 (0.012)	-0.001 (0.012)	0.020 (0.016)	0.020 (0.017)				
Corporate Governance Strength	-0.010 (0.011)	-0.008 (0.011)	-0.018 (0.014)	-0.019 (0.014)				
Corporate Governance Concern	0.005 (0.009)	0.003 (0.009)	0.007 (0.014)	0.006 (0.013)				
Strengths					-0.003 (0.004)	-0.007 (0.004) *	0.002 (0.005)	-0.002 (0.005)
Concerns					-0.017 (0.007) **	-0.022 (0.008) ***	-0.010 (0.009)	-0.014 (0.011)
<i>Tobin's Q</i>								
Industry-Adjusted Sales Growth	0.056 (0.013) ***	0.016 (0.010)	0.079 (0.020) ***	0.031 (0.016) *	0.050 (0.013) ***	0.014 (0.010)	0.067 (0.020) ***	0.023 (0.015)
Environment Strength	0.040 (0.010) ***	0.021 (0.007) ***	-0.001 (0.013)	0.010 (0.008)				
Environment Concern	0.002 (0.010)	0.006 (0.007)	0.003 (0.014)	-0.002 (0.008)				
Community Strength	0.126 (0.017) ***	0.039 (0.011) ***	0.119 (0.020) ***	0.028 (0.012) **				
Community Concern	0.075 (0.020) ***	0.036 (0.012) ***	0.083 (0.026) ***	0.028 (0.015) *				
Human Rights Strength	-0.115 (0.026) ***	-0.031 (0.017) *	-0.090 (0.036) **	-0.028 (0.021)				
Human Rights Concern	0.085 (0.027) ***	0.028 (0.019)	0.085 (0.036) **	0.036 (0.022)				
Employee Relations Strength	0.091 (0.009) ***	0.024 (0.006) ***	0.090 (0.012) ***	0.021 (0.007) ***				
Employee Relations Concern	-0.019 (0.011)	0.006 (0.008)	-0.010 (0.017)	0.018 (0.013)				
Diversity Strength	0.061 (0.013) ***	0.010 (0.008)	0.023 (0.016)	-0.001 (0.010)				
Diversity Concern	0.039 (0.016) **	0.007 (0.011)	0.033 (0.027)	0.004 (0.017)				
Product Strength	0.221 (0.023) ***	0.050 (0.015) ***	0.236 (0.030) ***	0.063 (0.019) ***				
Product Concern	0.061 (0.013) ***	0.030 (0.009) ***	0.063 (0.019) ***	0.025 (0.011) **				
Corporate Governance Strength	0.014 (0.017)	-0.011 (0.012)	0.015 (0.022)	0.012 (0.016)				
Corporate Governance Concern	0.079 (0.014) ***	0.021 (0.009) **	0.030 (0.020)	0.010 (0.012)				
Strengths					0.115 (0.006) ***	0.031 (0.004) ***	0.090 (0.008) ***	0.024 (0.005) ***
Concerns					0.077 (0.010) ***	0.037 (0.007) ***	0.049 (0.013) ***	0.021 (0.008) **

(Continued)

Table 10 (Continued)

ESG Performance per (Domain) Strength & Concern and Financial Performance (Tobin's Q) through Industry-Adjusted Sales Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Indirect effects								
<i>Tobin's Q</i>								
Environment Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.000)				
Environment Concern	-0.001 (0.001)	0.000 (0.000)	0.001 (0.001)	0.000 (0.001)				
Community Strength	0.001 (0.001)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)				
Community Concern	0.000 (0.001)	0.000 (0.000)	-0.002 (0.002)	-0.001 (0.001)				
Human Rights Strength	0.007 (0.002) ***	0.002 (0.001)	0.008 (0.003) ***	0.003 (0.002) *				
%	-6.54%	-7.14%	-9.14%	-12.23%				
Human Rights Concern	-0.007 (0.002) ***	-0.002 (0.001)	-0.011 (0.004) ***	-0.004 (0.002) *				
%	-9.51%	-8.29%	-14.65%	-13.27%				
Employee Relations Strength	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.000 (0.000)				
Employee Relations Concern	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.000)				
Diversity Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.000)				
Diversity Concern	0.000 (0.001)	0.000 (0.000)	0.001 (0.001)	0.000 (0.000)				
Product Strength	-0.005 (0.002) ***	-0.002 (0.001)	-0.005 (0.002) ***	-0.002 (0.001) *				
%	-2.49%	-3.52%	-2.35%	-3.99%				
Product Concern	0.000 (0.001)	0.000 (0.000)	0.002 (0.001)	0.001 (0.001)				
Corporate Governance Strength	-0.001 (0.001)	0.000 (0.000)	-0.001 (0.001)	-0.001 (0.001)				
Corporate Governance Concern	0.000 (0.001)	0.000 (0.000)	0.001 (0.001)	0.000 (0.000)				
Strengths					0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Concerns					-0.001 (0.000) *	0.000 (0.000)	-0.001 (0.001)	0.000 (0.000)
Total effects								
<i>Tobin's Q</i>								
Industry-Adjusted Sales Growth	0.056 (0.013) ***	0.016 (0.010)	0.079 (0.020) ***	0.031 (0.016) *	0.050 (0.013) ***	0.014 (0.010)	0.067 (0.020) ***	0.023 (0.015)
Environment Strength	0.039 (0.010) ***	0.021 (0.006) ***	-0.001 (0.013)	0.010 (0.008)				
Environment Concern	0.002 (0.010)	0.005 (0.007)	0.004 (0.014)	-0.002 (0.008)				
Community Strength	0.127 (0.017) ***	0.039 (0.011) ***	0.119 (0.020) ***	0.028 (0.012) **				
Community Concern	0.076 (0.020) ***	0.036 (0.012) ***	0.081 (0.026) ***	0.027 (0.015) *				
Human Rights Strength	-0.108 (0.026) ***	-0.029 (0.017) *	-0.082 (0.035) **	-0.025 (0.020)				
Human Rights Concern	0.077 (0.027) ***	0.026 (0.019)	0.074 (0.036) **	0.032 (0.022)				
Employee Relations Strength	0.091 (0.009) ***	0.024 (0.006) ***	0.091 (0.012) ***	0.021 (0.007) ***				
Employee Relations Concern	-0.018 (0.011)	0.006 (0.008)	-0.010 (0.017)	0.018 (0.013)				
Diversity Strength	0.061 (0.013) ***	0.010 (0.008)	0.023 (0.016)	-0.001 (0.010)				
Diversity Concern	0.039 (0.016) **	0.007 (0.011)	0.033 (0.027)	0.004 (0.017)				
Product Strength	0.216 (0.023) ***	0.048 (0.014) ***	0.230 (0.030) ***	0.060 (0.019) ***				
Product Concern	0.061 (0.013) ***	0.030 (0.009) ***	0.064 (0.019) ***	0.026 (0.011) **				
Corporate Governance Strength	0.013 (0.017)	-0.011 (0.012)	0.014 (0.022)	0.011 (0.016)				
Corporate Governance Concern	0.079 (0.014) ***	0.021 (0.009) **	0.031 (0.020)	0.010 (0.012)				
Strengths					0.115 (0.006) ***	0.031 (0.004) ***	0.090 (0.008) ***	0.024 (0.005) ***
Concerns					0.076 (0.010) ***	0.036 (0.007) ***	0.049 (0.012) ***	0.020 (0.008) **
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
N	29,501	28,769	13,844	13,498	29,501	28,769	14,042	13,650
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
Industry-Adjusted Sales Growth	0.461	0.469	0.554	0.560	0.459	0.467	0.522	0.531
Tobin's Q	0.454	0.763	0.482	0.789	0.451	0.763	0.464	0.794
Overall	0.699	0.871	0.761	0.904	0.696	0.870	0.738	0.901

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted sales growth and Tobin's Q, followed by the indirect (mediation) effect on Tobin's Q and lastly the total effects on Tobin's Q. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from domain strengths and concerns, Columns 5-8 report results from total factor strengths and concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 11 ESG Performance per (Domain) Strength & Concern and Financial Performance (ROA) through Industry-Adjusted Sales Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Sales Growth</i>								
Environment Strength	-0.008 (0.007)	-0.008 (0.008)	-0.005 (0.009)	-0.005 (0.009)				
Environment Concern	-0.011 (0.011)	-0.010 (0.012)	0.010 (0.015)	0.010 (0.018)				
Community Strength	0.017 (0.012)	0.017 (0.016)	0.007 (0.015)	0.007 (0.022)				
Community Concern	0.007 (0.017)	0.007 (0.019)	0.003 (0.027)	0.003 (0.028)				
Human Rights Strength	0.120 (0.020) ***	0.116 (0.027) ***	0.061 (0.026) **	0.059 (0.031) *				
Human Rights Concern	-0.132 (0.022) ***	-0.132 (0.025) ***	-0.169 (0.033) ***	-0.168 (0.038) ***				
Employee Relations Strength	0.001 (0.005)	0.001 (0.005)	-0.004 (0.006)	-0.003 (0.006)				
Employee Relations Concern	0.001 (0.007)	-0.002 (0.007)	-0.018 (0.011)	-0.019 (0.012) *				
Diversity Strength	0.002 (0.008)	0.002 (0.011)	0.008 (0.011)	0.008 (0.016)				
Diversity Concern	0.007 (0.009)	0.007 (0.010)	0.012 (0.015)	0.012 (0.015)				
Product Strength	-0.097 (0.016) ***	-0.096 (0.017) ***	-0.063 (0.018) ***	-0.063 (0.019) ***				
Product Concern	0.000 (0.012)	0.000 (0.011)	0.039 (0.016) **	0.038 (0.019) **				
Corporate Governance Strength	-0.011 (0.011)	-0.011 (0.011)	0.000 (0.014)	0.001 (0.015)				
Corporate Governance Concern	0.003 (0.009)	0.004 (0.009)	-0.011 (0.014)	-0.011 (0.013)				
Strengths					-0.003 (0.004)	-0.003 (0.004)	0.003 (0.005)	0.003 (0.005)
Concerns					-0.018 (0.007) **	-0.019 (0.008) **	-0.014 (0.010)	-0.014 (0.010)
<i>ROA</i>								
Industry-Adjusted Sales Growth	0.502 (0.140) ***	0.889 (0.099) ***	0.678 (0.208) ***	0.914 (0.155) ***	0.461 (0.140) ***	0.868 (0.099) ***	0.810 (0.208) ***	0.999 (0.151) ***
Environment Strength	0.320 (0.091) ***	0.099 (0.055) *	0.534 (0.118) ***	0.166 (0.066) **				
Environment Concern	0.071 (0.117)	-0.059 (0.081)	0.048 (0.159)	-0.048 (0.100)				
Community Strength	-0.150 (0.155)	-0.103 (0.092)	-0.148 (0.186)	-0.080 (0.112)				
Community Concern	-0.016 (0.218)	0.126 (0.141)	-0.105 (0.317)	-0.015 (0.210)				
Human Rights Strength	-3.166 (0.443) ***	-1.489 (0.265) ***	-2.397 (0.572) ***	-1.142 (0.310) ***				
Human Rights Concern	0.400 (0.292)	0.495 (0.188) ***	0.937 (0.420) **	0.714 (0.219) ***				
Employee Relations Strength	0.167 (0.073) **	-0.025 (0.043)	0.394 (0.093) ***	0.034 (0.053)				
Employee Relations Concern	-0.973 (0.122) ***	0.030 (0.079)	-1.009 (0.166) ***	-0.113 (0.112)				
Diversity Strength	-0.212 (0.125) *	-0.048 (0.073)	0.079 (0.158)	0.114 (0.087)				
Diversity Concern	0.011 (0.164)	-0.149 (0.105)	-0.263 (0.266)	-0.248 (0.171)				
Product Strength	0.381 (0.197) *	0.160 (0.116)	-0.093 (0.261)	0.074 (0.151)				
Product Concern	0.113 (0.128)	-0.021 (0.080)	-0.340 (0.174) *	-0.138 (0.099)				
Corporate Governance Strength	-0.088 (0.177)	-0.033 (0.105)	-0.156 (0.231)	-0.146 (0.142)				
Corporate Governance Concern	-0.156 (0.150)	-0.281 (0.093) ***	-0.325 (0.200)	-0.406 (0.125) ***				
Strengths					0.095 (0.056) *	-0.025 (0.036)	0.442 (0.068) ***	0.130 (0.041) ***
Concerns					-0.415 (0.101) ***	-0.059 (0.063)	-0.432 (0.130) ***	-0.200 (0.078) **

(Continued)

Table 11 (Continued)

ESG Performance per (Domain) Strength & Concern and Financial Performance (ROA) through Industry-Adjusted Sales Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Indirect effects								
<i>ROA</i>								
Environment Strength	-0.004 (0.004)	-0.007 (0.007)	-0.004 (0.006)	-0.004 (0.008)				
Environment Concern	-0.005 (0.006)	-0.009 (0.011)	0.007 (0.010)	0.009 (0.016)				
Community Strength	0.009 (0.007)	0.015 (0.014)	0.005 (0.011)	0.007 (0.021)				
Community Concern	0.003 (0.009)	0.006 (0.017)	0.002 (0.018)	0.003 (0.026)				
Human Rights Strength	0.060 (0.019) ***	0.103 (0.025) ***	0.041 (0.022) *	0.054 (0.028) *				
%	-1.94%	-7.42%	-1.76%	-4.95%				
Human Rights Concern	-0.066 (0.021) ***	-0.118 (0.025) ***	-0.114 (0.041) ***	-0.154 (0.044) ***				
%	-19.92%	-31.21%	-13.89%	-27.42%				
Employee Relations Strength	0.000 (0.003)	0.001 (0.005)	-0.002 (0.004)	-0.003 (0.006)				
Employee Relations Concern	0.001 (0.004)	-0.001 (0.007)	-0.012 (0.008)	-0.018 (0.011)				
Diversity Strength	0.001 (0.004)	0.001 (0.010)	0.005 (0.008)	0.007 (0.014)				
Diversity Concern	0.003 (0.005)	0.006 (0.009)	0.008 (0.010)	0.011 (0.014)				
Product Strength	-0.049 (0.016) ***	-0.085 (0.018) ***	-0.042 (0.018) **	-0.057 (0.020) ***				
%	-14.59%	-114.04%	31.40%	-354.69%				
Product Concern	0.000 (0.006)	0.000 (0.010)	0.026 (0.013) **	0.035 (0.018) *				
Corporate Governance Strength	-0.005 (0.006)	-0.010 (0.010)	0.000 (0.009)	0.000 (0.014)				
Corporate Governance Concern	0.002 (0.005)	0.003 (0.008)	-0.008 (0.009)	-0.011 (0.012)				
Strengths					-0.001 (0.002)	-0.002 (0.003)	0.002 (0.004)	0.003 (0.005)
Concerns					-0.008 (0.004) *	-0.017 (0.007) **	-0.011 (0.008)	-0.014 (0.010)
%					1.98%	22.08%	2.53%	6.62%
Total effects								
<i>ROA</i>								
Industry-Adjusted Sales Growth	0.502 (0.140) ***	0.889 (0.099) ***	0.678 (0.208) ***	0.914 (0.155) ***	0.461 (0.140) ***	0.868 (0.099) ***	0.810 (0.208) ***	0.999 (0.151) ***
Environment Strength	0.316 (0.091) ***	0.092 (0.053) *	0.531 (0.118) ***	0.161 (0.066) **				
Environment Concern	0.066 (0.117)	-0.069 (0.082)	0.055 (0.160)	-0.039 (0.101)				
Community Strength	-0.141 (0.155)	-0.088 (0.092)	-0.143 (0.187)	-0.074 (0.113)				
Community Concern	-0.013 (0.218)	0.132 (0.140)	-0.103 (0.319)	-0.012 (0.210)				
Human Rights Strength	-3.106 (0.443) ***	-1.386 (0.263) ***	-2.356 (0.572) ***	-1.088 (0.311) ***				
Human Rights Concern	0.333 (0.292)	0.377 (0.184) **	0.822 (0.418) **	0.561 (0.212) ***				
Employee Relations Strength	0.167 (0.073) **	-0.024 (0.043)	0.391 (0.093) ***	0.032 (0.053)				
Employee Relations Concern	-0.972 (0.122) ***	0.028 (0.080)	-1.021 (0.167) ***	-0.131 (0.113)				
Diversity Strength	-0.211 (0.125) *	-0.046 (0.074)	0.085 (0.159)	0.121 (0.090)				
Diversity Concern	0.014 (0.164)	-0.143 (0.106)	-0.255 (0.267)	-0.237 (0.172)				
Product Strength	0.333 (0.198) *	0.075 (0.116)	-0.135 (0.262)	0.016 (0.153)				
Product Concern	0.113 (0.128)	-0.021 (0.081)	-0.313 (0.175) *	-0.103 (0.100)				
Corporate Governance Strength	-0.094 (0.176)	-0.043 (0.106)	-0.156 (0.231)	-0.145 (0.143)				
Corporate Governance Concern	-0.154 (0.150)	-0.277 (0.094) ***	-0.332 (0.200) *	-0.417 (0.126) ***				
Strengths					0.094 (0.056) *	-0.027 (0.036)	0.444 (0.068) ***	0.133 (0.042) ***
Concerns					-0.424 (0.101) ***	-0.075 (0.063)	-0.443 (0.130) ***	-0.215 (0.079) ***
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
<i>N</i>	29,457	29,443	13,814	13,807	29,457	29,443	14,112	14,108
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
Industry-Adjusted Sales Growth	0.461	0.461	0.542	0.543	0.458	0.459	0.520	0.520
ROA	0.328	0.719	0.341	0.726	0.324	0.719	0.318	0.708
Overall	0.624	0.843	0.684	0.868	0.620	0.842	0.658	0.854

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted sales growth and ROA, followed by the indirect (mediation) effect on ROA and lastly the total effects on ROA. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from domain strengths and concerns, Columns 5-8 report results from total factor strengths and concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

as they are exactly the opposite of the total effect. The total effect for Human Rights strength is negative and positive for concerns. Since these partial mediation effects are also economically large it implies that there are other channel(s) with a relatively large negative mediation effect on financial performance for the Human Rights domain.

Product strengths, surprisingly, have a significant negative partial mediating effect on both Tobin's Q and ROA. This is contradicting, as the total effect is significantly positive with respect to long-term performance and insignificant with respect to short-term performance. These negative mediation effects can be due to multiple reasons, but it might be the result of a higher price. Since the product domain consists of variables such as privacy & data security (Appendix A) it is unlikely that consumers do not care about them. Yet, such strengths are often bearing high, priced in, costs. Consumers are often confronted with what they would like to buy and what they can afford. As such, investing in Product strengths might be a strategy for companies to lock in consumers further in the future when these strengths will be less costly for the firm or become an industry standard.

4.2.2 Labor productivity as channel for ESG Performance

Employees are an important factor in a firm; they can make or break it. ESG performance could be an important influence on the satisfaction of employees. For many employees, their job is for a large part an extension of who they are. Employees might perform better and be more satisfied if the company they work for matches with their own norms & values. Unfortunately, correctly estimating employee satisfaction is difficult. Among others, Harter et al. (2002) prove that employee satisfaction is positively related with employee productivity. Therefore, extra labor productivity is used as a proxy for employee satisfaction. Logically, the indirect effect of ESG performance on financial performance through labor productivity should be more pronounced for ESG domains closely related to the mediation effect (Employee Relations, Human Rights and Diversity).

Like the demand channel before, labor productivity growth is adjusted for the industry (two-digit SIC code) average of the respective year. This is important since labor productivity might increase or decrease through the years regardless of ESG performance effects. Especially since increased automatization and digitalization make jobs more efficient. Adjusting for the industry average growth is therefore necessary to estimate if ESG performance gives a boost or downgrade to labor productivity. In unrepresented results adjusting for industry at the three-digit SIC code reports similar results in sign and significance.

Again, overall (factor) ESG performance measures show insignificant results for both the Tobin's Q and ROA (see Appendix C Tables 1 and 2). The direct effects of adjusted labor productivity growth and overall ESG measures are significant and positive. Thus, the absence of significant (partial) mediation effects is entirely due to insignificant effects of overall ESG measures on adjusted labor productivity growth. Furthermore, as presented in Tables 12 and 13, total factor strengths and concerns also show insignificant mediation effects. Each ESG domain is clearly not equally important for labor

productivity, though it still leaves open the possibility that specific ESG domains do have a significant (partial) mediation effect through labor productivity.

Surprisingly, only the strengths and concerns from the Human Rights domain and the strength side of the Product domain have significant partial mediation effects. Surprisingly, there is no significant mediation effect for the Employee Relations domain. The Employee Relations domain captures variables like employee compensation, labor rights, safety, child labor, etc. Most would therefore expect that these factors would positively influence labor productivity. Since the firms in the sample are relatively large and presumably efficient, Employee Relations improvements might not result in more productive employees but in other factors that influence labor satisfaction. Employee Relations ESG might influence employee appreciation, happiness, less employee turnover, etc. These factors would not necessarily cause more productive employees but can create value and profitability for the firm (Harter et al., 2002).

Human Rights does follow the expected pattern. Strengths increase and Concerns decrease Tobin's and ROA through labor productivity. For Human Rights strengths this partial mediation effect amounts to -12% (-16%) of the total effect on Tobin's Q (ROA) in the matched sample (Columns 4). The percentages are again negative since the total effect is negative (positive) for Strengths (Concerns). This also implies that there are other channels in play with a negative mediation effect on financial performance, as both industry-adjusted sales and labor productivity growth show sizeable and significant positive effects. A likely negative mediation effect would be in the direction of an increase in costs. Human Rights violations are often closely related to suppression. Suppression can lead to underpaying or disrespecting employees, suppliers, property owners etc. The results could thus capture the effect of firms that make the conscious choice to respect and uphold Human Rights at higher costs, thus less profits than firms who do not.

Furthermore, the Product domain shows negative significant mediation effects on Tobin's Q and ROA (though insignificant for the matched sample on ROA). Product strengths could require more resources to materialize them. As these strengths could require more labor input, they might induce more costs. A more costly product or service generally comes with a higher sales price, which would explain the negative partial mediation of sales growth.

Table 12

ESG Performance per (Domain) Strength & Concern and Financial Performance (Tobin's Q) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Labor Productivity growth</i>								
Environment Strength	0.000 (0.005)	0.000 (0.004)	0.004 (0.006)	0.003 (0.006)				
Environment Concern	0.003 (0.007)	0.002 (0.006)	0.009 (0.009)	0.009 (0.009)				
Community Strength	0.003 (0.009)	0.006 (0.009)	-0.002 (0.011)	0.000 (0.012)				
Community Concern	-0.003 (0.011)	-0.003 (0.011)	-0.016 (0.016)	-0.015 (0.015)				
Human Rights Strength	0.068 (0.013) ***	0.070 (0.011) ***	0.039 (0.017) **	0.040 (0.013) ***				
Human Rights Concern	-0.074 (0.013) ***	-0.074 (0.012) ***	-0.082 (0.019) ***	-0.080 (0.017) ***				
Employee Relations Strength	0.002 (0.003)	0.003 (0.003)	0.007 (0.004)	0.008 (0.004) **				
Employee Relations Concern	0.010 (0.005) **	0.008 (0.004) *	0.008 (0.007)	0.007 (0.007)				
Diversity Strength	0.002 (0.005)	0.005 (0.006)	0.007 (0.007)	0.007 (0.009)				
Diversity Concern	0.006 (0.006)	0.008 (0.006)	0.009 (0.010)	0.011 (0.010)				
Product Strength	-0.036 (0.010) ***	-0.033 (0.010) ***	-0.026 (0.011) **	-0.023 (0.011) **				
Product Concern	0.005 (0.007)	0.006 (0.007)	0.008 (0.010)	0.010 (0.010)				
Corporate Governance Strength	-0.006 (0.007)	-0.006 (0.007)	-0.008 (0.009)	-0.009 (0.009)				
Corporate Governance Concern	0.011 (0.006) *	0.015 (0.006) **	0.021 (0.009) **	0.022 (0.009) **				
Strengths					0.002 (0.003)	0.004 (0.002)	0.005 (0.003)	0.006 (0.003) *
Concerns					0.001 (0.005)	0.002 (0.005)	0.003 (0.006)	0.004 (0.006)
<i>Tobin's Q</i>								
Industry-Adjusted Labor Productivity growth	-0.073 (0.020) ***	0.032 (0.015) **	-0.017 (0.030)	0.066 (0.023) ***	-0.078 (0.020) ***	0.031 (0.015) **	-0.047 (0.029)	0.053 (0.022) **
Environment Strength	0.047 (0.010) ***	0.022 (0.007) ***	0.007 (0.013)	0.010 (0.008)				
Environment Concern	0.008 (0.010)	0.007 (0.007)	0.008 (0.014)	-0.002 (0.008)				
Community Strength	0.121 (0.016) ***	0.038 (0.011) ***	0.116 (0.020) ***	0.028 (0.012) **				
Community Concern	0.069 (0.020) ***	0.033 (0.011) ***	0.078 (0.027) ***	0.028 (0.015) *				
Human Rights Strength	-0.066 (0.027) **	-0.026 (0.017)	-0.051 (0.037)	-0.024 (0.021)				
Human Rights Concern	0.065 (0.027) **	0.030 (0.019)	0.069 (0.036) *	0.038 (0.022) *				
Employee Relations Strength	0.092 (0.009) ***	0.025 (0.006) ***	0.093 (0.012) ***	0.021 (0.007) ***				
Employee Relations Concern	-0.015 (0.011)	0.006 (0.008)	-0.013 (0.017)	0.016 (0.013)				
Diversity Strength	0.067 (0.013) ***	0.012 (0.008)	0.036 (0.016) **	0.000 (0.010)				
Diversity Concern	0.034 (0.016) **	0.005 (0.011)	0.028 (0.027)	0.004 (0.018)				
Product Strength	0.206 (0.022) ***	0.049 (0.015) ***	0.224 (0.030) ***	0.062 (0.019) ***				
Product Concern	0.073 (0.013) ***	0.031 (0.008) ***	0.072 (0.019) ***	0.027 (0.011) **				
Corporate Governance Strength	0.006 (0.017)	-0.013 (0.012)	0.011 (0.022)	0.011 (0.016)				
Corporate Governance Concern	0.094 (0.013) ***	0.022 (0.009) **	0.046 (0.020) **	0.011 (0.012)				
Strengths					0.118 (0.006) ***	0.032 (0.004) ***	0.092 (0.008) ***	0.024 (0.005) ***
Concerns					0.088 (0.009) ***	0.037 (0.007) ***	0.060 (0.012) ***	0.022 (0.008) ***

(Continued)

Table 12 (Continued)

ESG Performance per (Domain) Strength & Concern and Financial Performance (Tobin's Q) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Indirect effects								
<i>Tobin's Q</i>								
Environment Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)				
Environment Concern	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)				
Community Strength	0.000 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)				
Community Concern	0.000 (0.001)	0.000 (0.000)	0.000 (0.001)	-0.001 (0.001)				
Human Rights Strength	-0.005 (0.002) ***	0.002 (0.001) **	-0.001 (0.001)	0.003 (0.001) **				
%	7.03%	-9.30%	1.27%	-12.39%				
Human Rights Concern	0.005 (0.002) ***	-0.002 (0.001) **	0.001 (0.002)	-0.005 (0.002) **				
%	7.61%	-8.70%	1.93%	-16.13%				
Employee Relations Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)				
Employee Relations Concern	-0.001 (0.000) *	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)				
Diversity Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)				
Diversity Concern	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)				
Product Strength	0.003 (0.001) **	-0.001 (0.001) *	0.000 (0.001)	-0.002 (0.001) *				
%	1.25%	-2.19%	0.19%	-2.54%				
Product Concern	0.000 (0.001)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)				
Corporate Governance Strength	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001 (0.001)				
Corporate Governance Concern	-0.001 (0.000) *	0.000 (0.000)	0.000 (0.001)	0.001 (0.001) *				
Strengths					0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Concerns					0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Total effects								
<i>Tobin's Q</i>								
Industry-Adjusted Labor Productivity growth	-0.073 (0.020) ***	0.032 (0.015) **	-0.017 (0.030)	0.066 (0.023) ***	-0.078 (0.020) ***	0.031 (0.015) **	-0.047 (0.029)	0.053 (0.022) **
Environment Strength	0.047 (0.010) ***	0.022 (0.007) ***	0.007 (0.013)	0.010 (0.008)				
Environment Concern	0.008 (0.010)	0.007 (0.007)	0.008 (0.014)	-0.002 (0.008)				
Community Strength	0.121 (0.016) ***	0.038 (0.011) ***	0.116 (0.020) ***	0.028 (0.012) **				
Community Concern	0.069 (0.020) ***	0.032 (0.011) ***	0.079 (0.027) ***	0.027 (0.015) *				
Human Rights Strength	-0.071 (0.027) ***	-0.024 (0.017)	-0.051 (0.037)	-0.021 (0.021)				
Human Rights Concern	0.071 (0.027) ***	0.027 (0.019)	0.070 (0.036) *	0.033 (0.022)				
Employee Relations Strength	0.091 (0.009) ***	0.025 (0.006) ***	0.092 (0.012) ***	0.022 (0.007) ***				
Employee Relations Concern	-0.015 (0.011)	0.007 (0.008)	-0.013 (0.017)	0.017 (0.013)				
Diversity Strength	0.067 (0.013) ***	0.012 (0.008)	0.036 (0.016) **	0.001 (0.010)				
Diversity Concern	0.033 (0.016) **	0.005 (0.011)	0.028 (0.027)	0.004 (0.017)				
Product Strength	0.209 (0.022) ***	0.048 (0.015) ***	0.224 (0.030) ***	0.061 (0.019) ***				
Product Concern	0.073 (0.013) ***	0.032 (0.008) ***	0.072 (0.019) ***	0.027 (0.011) **				
Corporate Governance Strength	0.007 (0.017)	-0.013 (0.012)	0.011 (0.022)	0.011 (0.016)				
Corporate Governance Concern	0.094 (0.013) ***	0.022 (0.009) **	0.045 (0.020) **	0.012 (0.012)				
Strengths					0.117 (0.006) ***	0.032 (0.004) ***	0.092 (0.008) ***	0.024 (0.005) ***
Concerns					0.088 (0.009) ***	0.038 (0.007) ***	0.060 (0.012) ***	0.022 (0.008) ***
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
N	29,196	28,512	13,714	13,388	29,196	28,512	13,910	13,542
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
Industry-Adjusted Labor Productivity growth	0.588	0.594	0.648	0.653	0.587	0.593	0.631	0.637
Tobin's Q	0.468	0.763	0.492	0.788	0.465	0.763	0.479	0.794
Overall	0.773	0.900	0.814	0.923	0.771	0.900	0.801	0.923

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted labor productivity growth and Tobin's Q, followed by the indirect (mediation) effect on Tobin's Q and lastly the total effects on Tobin's Q. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from domain strengths and concerns, Columns 5-8 report results from total factor strengths and concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 13

ESG Performance per (Domain) Strength & Concern and Financial Performance (ROA) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Labor Productivity growth</i>								
Environment Strength	0.000 (0.005)	0.000 (0.004)	-0.002 (0.006)	-0.001 (0.006)				
Environment Concern	0.003 (0.007)	0.003 (0.007)	0.016 (0.010)	0.016 (0.010)				
Community Strength	0.003 (0.009)	0.003 (0.009)	0.003 (0.011)	0.003 (0.013)				
Community Concern	-0.003 (0.011)	-0.003 (0.011)	0.005 (0.017)	0.005 (0.016)				
Human Rights Strength	0.068 (0.013) ***	0.064 (0.011) ***	0.033 (0.016) **	0.031 (0.015) **				
Human Rights Concern	-0.074 (0.013) ***	-0.074 (0.012) ***	-0.095 (0.019) ***	-0.094 (0.018) ***				
Employee Relations Strength	0.002 (0.003)	0.002 (0.003)	0.001 (0.004)	0.002 (0.004)				
Employee Relations Concern	0.010 (0.005) **	0.008 (0.004) *	0.000 (0.007)	-0.001 (0.007)				
Diversity Strength	0.002 (0.005)	0.002 (0.006)	0.008 (0.007)	0.008 (0.009)				
Diversity Concern	0.006 (0.006)	0.006 (0.006)	0.006 (0.010)	0.006 (0.010)				
Product Strength	-0.036 (0.010) ***	-0.035 (0.010) ***	-0.015 (0.011)	-0.016 (0.011)				
Product Concern	0.005 (0.007)	0.005 (0.007)	0.027 (0.010) ***	0.026 (0.011) **				
Corporate Governance Strength	-0.006 (0.007)	-0.006 (0.007)	-0.003 (0.009)	-0.003 (0.009)				
Corporate Governance Concern	0.011 (0.006) *	0.011 (0.006) *	0.002 (0.009)	0.002 (0.008)				
Strengths					0.002 (0.003)	0.002 (0.003)	0.006 (0.003) *	0.006 (0.003) *
Concerns					0.001 (0.005)	0.000 (0.005)	0.003 (0.006)	0.003 (0.006)
<i>ROA</i>								
Industry-Adjusted Labor Productivity growth	0.232 (0.213)	0.905 (0.136) ***	0.467 (0.306)	0.983 (0.198) ***	0.184 (0.213)	0.893 (0.136) ***	0.714 (0.311) **	1.182 (0.197) ***
Environment Strength	0.361 (0.091) ***	0.182 (0.052) ***	0.573 (0.119) ***	0.229 (0.063) ***				
Environment Concern	0.077 (0.115)	-0.024 (0.078)	0.075 (0.158)	0.019 (0.096)				
Community Strength	-0.171 (0.154)	-0.174 (0.088) **	-0.161 (0.185)	-0.129 (0.106)				
Community Concern	-0.013 (0.218)	0.078 (0.144)	-0.137 (0.315)	-0.130 (0.207)				
Human Rights Strength	-2.929 (0.429) ***	-0.848 (0.238) ***	-2.222 (0.551) ***	-0.632 (0.285) **				
Human Rights Concern	0.294 (0.288)	0.342 (0.164) **	0.746 (0.412) *	0.458 (0.183) **				
Employee Relations Strength	0.165 (0.073) **	-0.011 (0.041)	0.390 (0.093) ***	0.046 (0.051)				
Employee Relations Concern	-0.954 (0.122) ***	0.116 (0.074)	-1.011 (0.166) ***	-0.047 (0.108)				
Diversity Strength	-0.163 (0.124)	0.025 (0.069)	0.159 (0.158)	0.238 (0.083) ***				
Diversity Concern	-0.023 (0.164)	-0.212 (0.101) **	-0.285 (0.265)	-0.310 (0.164) *				
Product Strength	0.279 (0.199)	-0.031 (0.111)	-0.191 (0.264)	-0.074 (0.147)				
Product Concern	0.177 (0.127)	0.121 (0.076)	-0.257 (0.173)	0.008 (0.091)				
Corporate Governance Strength	-0.113 (0.175)	-0.105 (0.099)	-0.168 (0.227)	-0.226 (0.133) *				
Corporate Governance Concern	-0.021 (0.150)	-0.036 (0.088)	-0.239 (0.200)	-0.194 (0.119)				
Strengths					0.111 (0.056) **	0.003 (0.035)	0.438 (0.068) ***	0.123 (0.043) ***
Concerns					-0.340 (0.101) ***	0.109 (0.061) *	-0.331 (0.130) **	-0.019 (0.074)

(Continued)

Table 13 (Continued)

ESG Performance per (Domain) Strength & Concern and Financial Performance (ROA) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Indirect effects								
<i>ROA</i>								
Environment Strength	0.000 (0.001)	0.000 (0.004)	-0.001 (0.003)	-0.001 (0.005)				
Environment Concern	0.001 (0.002)	0.003 (0.006)	0.007 (0.007)	0.015 (0.010)				
Community Strength	0.001 (0.002)	0.002 (0.009)	0.001 (0.005)	0.003 (0.013)				
Community Concern	-0.001 (0.003)	-0.003 (0.010)	0.002 (0.008)	0.005 (0.016)				
Human Rights Strength	0.016 (0.015)	0.058 (0.013) ***	0.016 (0.013)	0.030 (0.017) *				
%	-0.54%	-7.35%	-0.71%	-5.07%				
Human Rights Concern	-0.017 (0.016)	-0.067 (0.015) ***	-0.044 (0.030)	-0.093 (0.026) ***				
%	-6.23%	-24.39%	-6.32%	-25.41%				
Employee Relations Strength	0.000 (0.001)	0.002 (0.003)	0.001 (0.002)	0.002 (0.004)				
Employee Relations Concern	0.002 (0.002)	0.007 (0.004)	0.000 (0.003)	-0.001 (0.007)				
Diversity Strength	0.000 (0.001)	0.002 (0.006)	0.004 (0.004)	0.008 (0.009)				
Diversity Concern	0.001 (0.002)	0.006 (0.006)	0.003 (0.005)	0.006 (0.010)				
Product Strength	-0.008 (0.008)	-0.032 (0.010) ***	-0.007 (0.007)	-0.015 (0.012)				
%	-3.08%	50.68%	3.64%	17.15%				
Product Concern	0.001 (0.002)	0.005 (0.006)	0.012 (0.009)	0.026 (0.012) **				
%	0.64%	3.60%	-5.09%	76.53%				
Corporate Governance Strength	-0.001 (0.002)	-0.005 (0.006)	-0.001 (0.004)	-0.003 (0.009)				
Corporate Governance Concern	0.003 (0.003)	0.010 (0.006) *	0.001 (0.004)	0.002 (0.008)				
%	-14.04%	-38.97%	-0.43%	-1.04%				
Strengths					0.000 (0.001)	0.002 (0.002)	0.004 (0.003)	0.008 (0.004) *
%					0.29%	37.21%	0.97%	5.79%
Concerns					0.000 (0.001)	0.000 (0.004)	0.002 (0.004)	0.003 (0.007)
Total effects								
<i>ROA</i>								
Industry-Adjusted Labor Productivity growth	0.232 (0.213)	0.905 (0.136) ***	0.467 (0.306)	0.983 (0.198) ***	0.184 (0.213)	0.893 (0.136) ***	0.714 (0.311) **	1.182 (0.197) ***
Environment Strength	0.361 (0.091) ***	0.183 (0.051) ***	0.572 (0.119) ***	0.228 (0.063) ***				
Environment Concern	0.078 (0.115)	-0.021 (0.078)	0.083 (0.158)	0.035 (0.097)				
Community Strength	-0.171 (0.154)	-0.171 (0.090) *	-0.159 (0.186)	-0.126 (0.107)				
Community Concern	-0.014 (0.218)	0.076 (0.144)	-0.135 (0.316)	-0.125 (0.207)				
Human Rights Strength	-2.913 (0.428) ***	-0.790 (0.237) ***	-2.207 (0.551) ***	-0.601 (0.285) **				
Human Rights Concern	0.276 (0.288)	0.275 (0.163) *	0.701 (0.412) *	0.365 (0.180) **				
Employee Relations Strength	0.165 (0.073) **	-0.009 (0.041)	0.391 (0.093) ***	0.048 (0.051)				
Employee Relations Concern	-0.951 (0.122) ***	0.123 (0.075)	-1.011 (0.166) ***	-0.048 (0.108)				
Diversity Strength	-0.163 (0.124)	0.026 (0.070)	0.163 (0.158)	0.246 (0.085) ***				
Diversity Concern	-0.022 (0.165)	-0.206 (0.102) **	-0.282 (0.265)	-0.304 (0.165) *				
Product Strength	0.271 (0.199)	-0.063 (0.112)	-0.199 (0.265)	-0.090 (0.149)				
Product Concern	0.178 (0.127)	0.126 (0.076) *	-0.245 (0.174)	0.034 (0.092)				
Corporate Governance Strength	-0.115 (0.175)	-0.111 (0.099)	-0.169 (0.227)	-0.229 (0.133) *				
Corporate Governance Concern	-0.019 (0.150)	-0.026 (0.088)	-0.238 (0.200)	-0.192 (0.120)				
Strengths					0.111 (0.056) **	0.005 (0.035)	0.442 (0.068) ***	0.131 (0.043) ***
Concerns					-0.340 (0.101) ***	0.109 (0.061) *	-0.329 (0.130) **	-0.016 (0.075)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
N	29,152	29,138	13,677	13,670	29,152	29,138	13,973	13,969
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
Industry-Adjusted Labor Productivity growth	0.588	0.589	0.646	0.646	0.587	0.588	0.627	0.627
ROA	0.334	0.748	0.348	0.754	0.331	0.748	0.328	0.738
Overall	0.713	0.892	0.756	0.908	0.711	0.891	0.736	0.897

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted labor productivity growth and ROA, followed by the indirect (mediation) effect on ROA and lastly the total effects on ROA. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from domain strengths and concerns, Columns 5-8 report results from total factor strengths and concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1;

*, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

4.3 The Paris Climate Agreement: a Difference-in-Difference approach.

As the direct effects and channels (indirect effects) of ESG performance on financial performance are not similar between and within domains, it is unlikely that the importance of ESG performance is constant over time. As described in Section 2, perceptions of society change over time, resulting in different (in)direct effects. Furthermore, management would also need to constantly adapt its approaches to extract the value from ESG channels. This combination could make specific ESG domains more or less important over time. However, only a few studies analyze if time is of significant influence. The few studies that do, all use the latest economic crisis as an exogenous shock (e.g. Hong et al., 2015; Lins et al., 2017; Buchanan et al., 2018). While those studies give meaningful insights, they are also chosen from a traditional shareholder view. During an economic crisis, financial factors increase in importance and are subject to a lot of pressure, ESG performance, however, remains relatively stable during such periods. So, it is equally interesting to review a period where ESG performance is the subject of the exogenous shock. The Paris Climate Agreement from December 2015 is the closest event to such an exogenous shock.

As the data sample covers listed firms from 2003 to 2018, effects from both the economic crisis and the Paris Climate Agreement can be analyzed. However, as the economic crisis has already been studied and is not the focus of this study, effects from the economic crisis are analyzed separately in Appendix D. To mitigate potential biases from the economic crisis, the years prior to 2013 are excluded.

Overall (factor) ESG performance does not differ in short- and long-term performance before and after the Paris Agreement (Table 14). Although, the equal weights ESG measure is significant and positive for the years after the Agreement (after 2015) for the unmatched sample, it does not hold in the matched sample with respect to both Tobin's Q and ROA. Moreover, the results are similar in the (un)matched sample for factor ESG with respect to short-term performance. However, the firm fixed effects models in both the unmatched and matched sample indicate that there is a positive difference after the Paris Agreement for factor ESG with respect to long-term performance.

Although neither overall ESG measures provides conclusive results, they do hint that (parts of) ESG performance is valued higher after the Paris Agreement. It also shows that shareholders do not radically change their beliefs or preferences on ESG performance as a whole. If investors would suddenly become aware of ESG performance through the announcement of the Agreement, then an effect would be consistent over all model specifications. As this is not the case, it is unlikely that the agreement is a wake-up call on the existence of ESG performance in the first place. Still, the Agreement could cause investors to update preferences and/or beliefs on the relative importance of ESG aspects. Therefore, Table 15 presents the total factor strengths & concerns in Panel A and Panel B the analysis per domain strengths and concerns.

The Paris Agreement also did not cause investors to update their beliefs and preferences on total strengths and concerns. There is only minor evidence (at 10% significance and only in the unmatched sample) that concerns are valued more negatively after the Agreement than in the years before. Thus,

Table 14

Short- and Long-term Financial Performance Surrounding the Paris Climate Agreement and overall (Factor) ESG Performance

Panel A: Equal Weights <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG	0.045 (0.008) ***	-0.025 (0.007) ***	0.047 (0.011) ***	-0.011 (0.011)	0.058 (0.067)	-0.054 (0.060)	0.172 (0.097) *	-0.084 (0.095)
Paris	-0.103 (0.043) **	-0.140 (0.024) ***	-0.059 (0.053)	-0.099 (0.032) ***	-1.354 (0.385) ***	-0.200 (0.209)	-0.731 (0.466)	0.208 (0.291)
Post-Paris	-0.041 (0.044)	0.070 (0.030) **	0.010 (0.058)	0.084 (0.040) **	-1.298 (0.366) ***	0.066 (0.257)	-0.741 (0.470)	0.380 (0.354)
Paris#ESG	0.039 (0.015) ***	0.015 (0.010)	0.027 (0.024)	0.002 (0.016)	0.065 (0.139)	-0.132 (0.084)	0.013 (0.209)	-0.273 (0.141) *
Post-Paris#ESG	0.021 (0.011) *	0.017 (0.007) **	0.012 (0.019)	0.008 (0.013)	0.164 (0.090) *	0.110 (0.064) *	0.139 (0.150)	0.087 (0.116)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	10,961	10,629	7,018	6,815	10,961	10,961	7,007	7,007
R ²	0.515	0.222	0.507	0.207	0.405	0.144	0.414	0.115
Adjusted R ²	0.511		0.500		0.400		0.406	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Panel B: Factor Weights <i>Independent Variable</i>	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Factor ESG	0.096 (0.017) ***	-0.053 (0.015) ***	0.070 (0.022) ***	-0.026 (0.021)	0.046 (0.137)	-0.153 (0.127)	0.453 (0.190) **
Paris	-0.065 (0.044)	-0.157 (0.025) ***	-0.044 (0.055)	-0.100 (0.033) ***	-1.441 (0.399) ***	-0.346 (0.216)	-1.636 (0.492) ***	-0.196 (0.295)
Post-Paris	-0.005 (0.046)	0.052 (0.030) *	-0.088 (0.057)	0.075 (0.039) *	-1.383 (0.381) ***	0.001 (0.263)	-1.286 (0.455) ***	-0.089 (0.350)
Paris#Factor ESG	0.069 (0.030) **	0.032 (0.020)	0.057 (0.045)	0.003 (0.030)	0.356 (0.268)	-0.085 (0.170)	0.668 (0.416)	-0.217 (0.284)
Post-Paris#Factor ESG	0.026 (0.022)	0.039 (0.015) ***	0.039 (0.036)	0.041 (0.024) *	0.493 (0.177) ***	0.253 (0.128) **	0.339 (0.275)	0.140 (0.220)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	10,961	10,629	6,655	6,430	10,961	10,961	6,752	6,752
R ²	0.515	0.222	0.513	0.233	0.405	0.144	0.392	0.152
Adjusted R ²	0.511		0.506		0.400		0.384	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; Paris is a dummy variable equal to one if the year is 2015, Post-Paris is a dummy variable equal to one if the year is >2015. # denotes a difference (interaction) effect of the variable on the left and on the right of #. Firm year observations prior to 2013 are excluded. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

investors did not become aware of ESG performance as a concept due to the Agreement. If anything, this is to be expected. Numerous studies have studied older time spans and found significant effects of ESG performance on financial performance (e.g. Waddock & Graves, 1997; Hill & Keim, 2001; Luo & Bhattacharya, 2006; Bird et al., 2007; Konar & Cohen, 2010). Finding evidence that investors were unaware or indifferent about ESG performance back then would contradict those earlier studies.

Yet, total factor concerns significantly decreases ROA more during and after the Agreement than the years before. There is also some evidence that total factor strengths increase ROA in the years after the Agreement. The discrepancy between the results with respect to Tobin's Q and ROA point towards an undervaluation by investors. Investors apparently do not fully incorporate short-term results in long-term valuation. This can be due to several reasons. Firstly, investors could be under the impression that the short-term effects (ROA) are only temporary and will diminish to zero in the future, thus justifying no effect on long-term value. Another reason could be that investors fail to accurately determine both short- and long-term effects of (domains of) ESG performance.

However, as Panel B from Table 15 shows, investors did revalue certain ESG domains in line with short-term effects, while simultaneously ignoring short-term effects in other domains. Since the Paris Agreement mainly relates to environmental matters, possible effects should be more pronounced for the Environmental domain. Surprisingly, investors only value Environmental strengths higher after the Agreement. Investors seem only to value the monetary gains from Environmental strengths as ROA also increases in the years after the Agreement. Investors also follow this reasoning for Environmental concerns. Environmental concerns do not lead to differences in financial performance (Tobin's Q and ROA) after the Agreement compared to before. A likely explanation is that the Paris Agreement is not a hard law, but a commitment without sanctions to improve the environmental situation. The unbinding nature of the Agreement was showcased by the fact that in the year after the Agreement, the U.S. President already voiced his intention to withdraw, which the U.S. did in 2017. Investors and firm management therefore might not have found it necessary to take actions on Environmental concerns. Investors thus did not revalue the Environmental domain based on their own preferences (willingness to pay a premium) or expectations about future abatement costs.

Investors also value Community strengths higher during and after the Agreement, though there is no evidence that short-term performance (ROA) increases. In fact, ROA significantly decreases in the year of the Agreement. Investors might appreciate the good image of the firm which could be beneficial for the future. Investors could also have a preference to give back to communities, although most of society would be rather skeptical that investors would truly have such a preference. However, investors did not update the valuation of Community concerns. In fact, apart from the entire Human Rights domain and Diversity concerns, investors only update their valuations for strengths but not for concerns.

Intuitively, this should be the opposite. Concerns are more likely to bring costs (that increase over time, such as transitioning an oil company from fossil energy to renewable energies) that can not be entirely offset by possible benefits. Otherwise, firms would not have concerns or would try to

Table 15

Short- and Long-term Financial Performance Surrounding the Paris Climate Agreement and ESG Performance per (Domain) Strength & Concern

Panel A: Factor Strengths & Concerns <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strengths	0.133 (0.017) ***	-0.056 (0.016) ***	0.101 (0.023) ***	-0.029 (0.022)	0.027 (0.142)	-0.238 (0.136) *	0.531 (0.200) ***	-0.147 (0.203)
Concerns	0.111 (0.031) ***	0.039 (0.034)	0.091 (0.038) **	0.010 (0.045)	0.108 (0.291)	0.403 (0.294)	0.025 (0.369)	0.399 (0.423)
Paris	-0.090 (0.045) **	-0.166 (0.026) ***	-0.076 (0.058)	-0.112 (0.035) ***	-1.292 (0.417) ***	-0.198 (0.221)	-1.447 (0.534) ***	0.098 (0.314)
Post-Paris	-0.008 (0.046)	0.056 (0.031) *	-0.102 (0.058) *	0.079 (0.040) *	-1.374 (0.385) ***	0.087 (0.266)	-1.262 (0.470) ***	0.089 (0.359)
Paris#Strengths	0.067 (0.030) **	0.030 (0.020)	0.073 (0.046)	0.011 (0.031)	0.378 (0.266)	-0.055 (0.171)	0.535 (0.443)	-0.456 (0.298)
Post-Paris#Strengths	0.026 (0.022)	0.040 (0.015) ***	0.052 (0.035)	0.039 (0.024)	0.492 (0.177) ***	0.276 (0.130) **	0.330 (0.280)	0.034 (0.223)
Paris#Concerns	0.063 (0.055)	0.029 (0.042)	0.063 (0.068)	0.042 (0.051)	-1.330 (0.530) **	-0.941 (0.370) **	-1.421 (0.611) **	-0.797 (0.464) *
Post-Paris#Concerns	0.088 (0.050) *	-0.066 (0.038) *	0.097 (0.066)	-0.063 (0.048)	-0.601 (0.413)	-0.910 (0.328) ***	-0.325 (0.532)	-0.956 (0.449) **
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	10,961	10,629	6,655	6,430	10,961	10,961	6,752	6,752
R ²	0.520	0.223	0.517	0.234	0.405	0.145	0.392	0.154
Adjusted R ²	0.516		0.510		0.400		0.383	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Panel B: Strengths & Concerns <i>Independent Variable</i>	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Environment Strength	0.041 (0.023) *	-0.045 (0.021) **	0.008 (0.030)	-0.032 (0.033)	0.128 (0.189)	0.010 (0.182)	0.384 (0.260)
Environment Concern	-0.035 (0.034)	0.035 (0.038)	0.012 (0.047)	0.054 (0.060)	0.312 (0.298)	0.661 (0.323) **	-0.200 (0.406)	0.570 (0.513)
Community Strength	0.030 (0.073)	-0.119 (0.060) **	-0.018 (0.095)	-0.158 (0.083) *	-0.216 (0.610)	-0.499 (0.506)	-0.531 (0.782)	-1.057 (0.713)
Community Concern	0.322 (0.086) ***	0.090 (0.095)	0.294 (0.120) **	0.023 (0.143)	-0.599 (0.776)	0.387 (0.812)	-0.469 (1.043)	1.814 (1.180)
Human Rights Strength	0.081 (0.045) *	0.092 (0.061)	0.034 (0.055)	0.076 (0.092)	0.792 (0.640)	1.288 (0.519) **	0.828 (0.838)	3.023 (0.831) ***
Human Rights Concern	-0.020 (0.084)	-0.085 (0.097)	0.007 (0.095)	-0.089 (0.141)	-0.847 (0.851)	-0.682 (0.827)	-2.707 (0.955) ***	-1.937 (1.405)
Employee Relations Strength	0.081 (0.020) ***	-0.011 (0.014)	0.076 (0.026) ***	-0.002 (0.019)	0.074 (0.139)	-0.217 (0.118) *	0.217 (0.182)	-0.091 (0.168)
Employee Relations Concern	0.057 (0.054)	-0.014 (0.047)	0.045 (0.076)	0.007 (0.070)	-0.447 (0.473)	-0.545 (0.401)	-0.784 (0.646)	-0.342 (0.603)
Diversity Strength	0.037 (0.051)	-0.008 (0.038)	0.094 (0.068)	0.016 (0.054)	-0.712 (0.419) *	0.272 (0.323)	-0.342 (0.560)	-0.294 (0.471)
Diversity Concern	0.081 (0.056)	0.064 (0.033) *	-0.042 (0.074)	-0.030 (0.045)	-0.604 (0.459)	0.066 (0.281)	-0.769 (0.580)	-0.385 (0.395)
Product Strength	0.258 (0.063) ***	0.014 (0.039)	0.335 (0.085) ***	0.001 (0.054)	0.818 (0.554)	-0.384 (0.323)	0.223 (0.710)	-0.395 (0.450)
Product Concern	0.208 (0.049) ***	-0.013 (0.042)	0.236 (0.068) ***	-0.021 (0.065)	0.870 (0.420) **	-0.040 (0.357)	0.557 (0.633)	-0.024 (0.572)
Corporate Governance Strength	0.116 (0.052) **	-0.041 (0.058)	0.074 (0.056)	-0.083 (0.076)	-0.642 (0.578)	0.729 (0.481)	-0.951 (0.728)	0.675 (0.662)
Corporate Governance Concern	-0.014 (0.055)	0.043 (0.059)	-0.087 (0.073)	-0.031 (0.094)	-0.993 (0.605)	-0.086 (0.498)	-0.290 (0.723)	0.841 (0.802)
Paris	-0.030 (0.055)	-0.125 (0.032) ***	-0.067 (0.070)	-0.129 (0.043) ***	-1.443 (0.473) ***	-0.022 (0.273)	-0.716 (0.577)	0.250 (0.383)
Post-Paris	0.051 (0.055)	0.102 (0.036) ***	0.003 (0.072)	0.076 (0.048)	-1.438 (0.448) ***	0.127 (0.307)	-0.838 (0.564)	0.297 (0.421)

Table 15 Panel B (Continued)

Short- and Long-term Financial Performance Surrounding the Paris Climate Agreement and ESG Performance per (Domain) Strength & Concern

Panel B: Strengths & Concerns <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Paris#Environment Strength	0.037 (0.036)	0.031 (0.023)	0.057 (0.047)	0.026 (0.034)	0.813 (0.303) ***	0.489 (0.196) **	0.652 (0.402)	0.325 (0.295)
after_Paris#Environment Strength	0.024 (0.029)	0.042 (0.020) **	0.035 (0.042)	0.069 (0.032) **	0.422 (0.233) *	0.019 (0.168)	0.774 (0.352) **	0.064 (0.283)
Paris#Environment Concern	0.105 (0.069)	0.023 (0.064)	0.043 (0.103)	0.019 (0.099)	-3.013 (1.152) ***	-2.444 (0.550) ***	-1.608 (1.467)	-1.279 (0.855)
after_Paris#Environment Concern	-0.066 (0.077)	-0.038 (0.082)	-0.112 (0.100)	0.000 (0.131)	-0.717 (0.655)	0.149 (0.700)	-0.033 (0.952)	0.905 (1.128)
Paris#Community Strength	0.362 (0.161) **	0.194 (0.129)	0.474 (0.235) **	0.160 (0.196)	-4.480 (3.020)	-4.619 (1.093) ***	-5.748 (4.645)	-6.690 (1.584) ***
after_Paris#Community Strength	0.270 (0.109) **	0.148 (0.085) *	0.474 (0.191) **	0.134 (0.144)	-0.405 (0.942)	-0.375 (0.725)	1.061 (1.864)	0.323 (1.207)
Paris#Community Concern	-0.180 (0.145)	-0.075 (0.139)	-0.024 (0.188)	-0.037 (0.193)	4.754 (1.981) **	5.270 (1.187) ***	2.634 (2.372)	0.973 (1.735)
after_Paris#Community Concern	-0.026 (0.116)	-0.072 (0.114)	0.085 (0.168)	0.010 (0.172)	0.777 (1.056)	0.149 (0.976)	0.649 (1.734)	0.187 (1.514)
Paris#Human Rights Strength	0.157 (0.093) *	0.012 (0.077)	0.203 (0.127)	0.056 (0.103)	-7.143 (1.986) ***	-7.780 (0.648) ***	-7.588 (2.899) ***	-9.666 (0.915) ***
after_Paris#Human Rights Strength	-0.149 (0.066) **	-0.085 (0.062)	-0.143 (0.084) *	-0.011 (0.089)	-0.868 (0.819)	0.159 (0.534)	-1.199 (1.075)	-1.879 (0.821) **
Paris#Human Rights Concern	-0.044 (0.155)	0.016 (0.135)	-0.152 (0.213)	0.031 (0.191)	2.216 (1.641)	1.252 (1.152)	1.756 (1.653)	0.463 (1.779)
after_Paris#Human Rights Concern	-0.371 (0.147) **	-0.095 (0.158)	-0.393 (0.174) **	-0.103 (0.221)	3.110 (1.662) *	1.520 (1.338)	6.627 (2.191) ***	1.299 (2.252)
Paris#Employee Relations Strength	0.025 (0.035)	-0.019 (0.021)	0.067 (0.051)	-0.016 (0.030)	-0.007 (0.274)	0.011 (0.176)	0.286 (0.397)	0.088 (0.267)
after_Paris#Employee Relations Strength	0.011 (0.025)	-0.002 (0.016)	0.018 (0.037)	-0.037 (0.025)	0.298 (0.189)	0.272 (0.138) **	0.176 (0.277)	0.034 (0.215)
Paris#Employee Relations Concern	-0.022 (0.098)	0.026 (0.064)	-0.026 (0.147)	0.003 (0.089)	0.099 (0.821)	1.127 (0.543) **	-0.479 (1.050)	0.451 (0.777)
after_Paris#Employee Relations Concern	0.037 (0.071)	-0.025 (0.052)	-0.035 (0.099)	-0.046 (0.078)	0.238 (0.596)	0.385 (0.444)	-0.074 (0.827)	0.006 (0.676)
Paris#Diversity Strength	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)
after_Paris#Diversity Strength	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)	0.000 (omitted)
Paris#Diversity Concern	-0.243 (0.244)	0.011 (0.180)	-0.140 (0.356)	0.175 (0.247)	-1.624 (2.732)	-0.915 (1.541)	0.150 (3.644)	-0.271 (2.217)
after_Paris#Diversity Concern	0.223 (0.163)	0.121 (0.110)	0.660 (0.263) **	0.399 (0.174) **	1.834 (1.591)	0.962 (0.938)	2.508 (3.076)	2.251 (1.499)
Paris#Product Strength	-0.148 (0.097)	0.002 (0.051)	-0.306 (0.127) **	-0.061 (0.067)	-0.306 (0.861)	0.387 (0.429)	-0.743 (1.077)	0.015 (0.566)
after_Paris#Product Strength	-0.128 (0.074) *	-0.028 (0.042)	-0.127 (0.105)	-0.040 (0.060)	-1.280 (0.653) *	0.673 (0.352) *	-1.756 (0.889) **	0.567 (0.508)
Paris#Product Concern	-0.087 (0.071)	0.004 (0.054)	-0.024 (0.096)	-0.004 (0.078)	0.318 (0.619)	0.313 (0.453)	0.424 (0.818)	0.672 (0.665)
after_Paris#Product Concern	-0.065 (0.067)	0.006 (0.048)	-0.046 (0.103)	-0.007 (0.075)	-0.411 (0.523)	-0.321 (0.399)	-0.302 (0.800)	-0.576 (0.639)
Paris#Corporate Governance Strength	-0.003 (0.073)	0.092 (0.072)	0.059 (0.086)	0.153 (0.092) *	-0.662 (1.034)	-1.496 (0.601) **	-1.360 (1.370)	-2.010 (0.804) **
after_Paris#Corporate Governance Strength	-0.052 (0.061)	0.027 (0.060)	-0.004 (0.075)	0.104 (0.082)	-0.007 (0.652)	-0.975 (0.504) *	0.282 (0.885)	-1.047 (0.719)
Paris#Corporate Governance Concern	0.102 (0.121)	0.000 (0.088)	-0.033 (0.152)	0.056 (0.127)	-0.406 (1.170)	-0.476 (0.731)	-2.379 (1.532)	-1.957 (1.092) *
after_Paris#Corporate Governance Concern	0.117 (0.077)	-0.152 (0.074) **	0.201 (0.105) *	-0.133 (0.114)	-1.130 (0.820)	-1.153 (0.626) *	-1.454 (1.056)	-1.492 (1.003)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	10,961	10,629	7,018	6,815	10,961	10,961	7,007	7,007
R ²	0.524	0.226	0.516	0.212	0.415	0.192	0.425	0.168
Adjusted R ²	0.518		0.507		0.408		0.415	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from total factor strengths & concerns and Panel B from domain strengths & concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; Paris is a dummy variable equal to one if the year is 2015, Post-Paris is a dummy variable equal to one if the year is >2015. # denotes a difference (interaction) effect of the variable on the left and on the right of #. Firm year observations prior to 2013 are excluded. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1. Difference effects for Diversity strengths are omitted since from 2014 onwards variance is zero (See Section 3.1.2); *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

minimize concerns. Investors might thus care more about the positive image strengths can bring than about the negative effects from concerns.

The Human Rights domain again presents some opposing results (as found in Section 4.1 and 4.2). Investors value both strengths and concerns more negatively in the years after the Agreement with a more pronounced (twice in size) effect for concerns. However, there is also some evidence that Human Rights concerns improve short-term performance. Investors might recognize that Human Rights concerns can increase short-term performance but simultaneously also decrease industry-adjusted sales growth and labor productivity growth (Section 4.2). Investors might thus see the long-term damage Human Rights concerns can cause while also recognizing that strengths are more costly than beneficial. As a result, investors might prefer firms with a neutral Human Rights score (no strengths and concerns). By extension, Diversity Concerns have a higher long-term value in the years after the Agreement without any support from short-term effects. This is especially contradictory since diversity has been a hot topic in recent years. A lot of studies (and governments) have focused on the financial effects of females in firms. This raises the question whether the found effects of gender diversity are merely due to excessive public debate instead of the core of the problem, namely insufficient diversity of minorities.

4.4 The moderation effect of Directors

Perceptions are also changing on the (gender) diversity of boards and with it the role that (gender) diversity plays on ESG performance (the perspective agency cost theory). Shareholders appoint directors to set out and supervise operations of the firm. Therefore, the board of directors consists of a mix of persons best fit to do this. Although directors are mostly nominated by serving directors, shareholders still vote on the nomination. Shareholders are thus responsible for the mix in resources and background of directors. Compared to uniform boards, boards that are diverse in resources and background might have different goals, such as a good ESG performance. As such, good ESG performance by more diverse boards might be valued higher since it would be an objective set by shareholders. As Liu (2018) shows, firms with more gender-diverse boards have significantly fewer environmental lawsuits. As such, the positive effect of females on financial performance could be due to the specific objectives held by directors. By extension, other attributes of directors might also moderate the effect of ESG performance on financial performance. For example, as Estélyi and Nisar (2016) advocate, more nationality-diverse boards positively influence financial performance, as more nationalities result in diverse perspectives and cultures which translate into more informed and effective decisions.

Tables 16-20 present the results for possible moderation effects of board diversities on ESG performance. Since the interest lies on the effect of board diversity, the additional diversity measures ethnicity and attendance are also included in Columns 3-4 and 7-8 in Tables 16-20. Table 16 and 17, further underline the importance of choosing a weighting mechanism when constructing an overall ESG performance measure. Based on Panel A from Table 16, age diversity positively moderates and nationality & number of qualifications diversities negatively moderate the effect of overall ESG

Table 16

Moderation effects of Diverse Boards on Overall (Factor) ESG Performance and Long-term Financial Performance (Tobin's Q)

Panel A: Equal Weights ESG <i>Independent Variable</i>	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG#Diversity: Current Directorships	-0.015 (0.016)	0.016 (0.013)	-0.011 (0.016)	0.017 (0.012)	-0.013 (0.025)	0.019 (0.019)	-0.008 (0.023)	0.025 (0.017)
ESG#Diversity: Past Directorships	0.004 (0.020)	-0.015 (0.016)	-0.038 (0.022) *	-0.002 (0.016)	-0.047 (0.029) *	-0.019 (0.023)	-0.048 (0.032)	-0.022 (0.022)
ESG#Diversity: Gender	0.098 (0.019) ***	0.013 (0.016)	0.094 (0.021) ***	0.011 (0.015)	0.060 (0.028) **	0.011 (0.022)	0.063 (0.029) **	0.010 (0.021)
ESG#Diversity: Age	0.128 (0.020) ***	0.044 (0.016) ***	0.095 (0.020) ***	0.039 (0.014) ***	0.118 (0.029) ***	0.041 (0.023) *	0.103 (0.030) ***	0.036 (0.021) *
ESG#Diversity: Tenure	-0.025 (0.016)	-0.016 (0.013)	-0.011 (0.019)	-0.017 (0.014)	-0.074 (0.025) ***	-0.023 (0.018)	-0.065 (0.028) **	-0.032 (0.020)
ESG#Diversity: Nationality	-0.028 (0.014) **	-0.017 (0.012)	-0.024 (0.014) *	-0.023 (0.011) **	-0.038 (0.020) *	-0.026 (0.016)	-0.037 (0.020) *	-0.039 (0.015) **
ESG#Diversity: Network Size	-0.110 (0.023) ***	-0.010 (0.020)	-0.039 (0.023) *	-0.006 (0.018)	-0.141 (0.038) ***	-0.004 (0.029)	-0.059 (0.040)	-0.003 (0.027)
ESG#Diversity: Board Independence	0.020 (0.014)	0.024 (0.013) *	0.029 (0.014) **	0.015 (0.012)	0.025 (0.020)	0.004 (0.018)	0.011 (0.020)	0.004 (0.016)
ESG#Diversity: Number of Qualifications	-0.107 (0.021) ***	-0.005 (0.018)	-0.110 (0.021) ***	-0.017 (0.017)	-0.151 (0.032) ***	-0.044 (0.027) *	-0.161 (0.032) ***	-0.046 (0.026) *
ESG#Diversity: Ethnicity			0.027 (0.016) *	0.028 (0.011) ***			0.007 (0.023)	0.021 (0.016)
ESG#Diversity: Attendance			-0.040 (0.044)	-0.050 (0.034)			-0.108 (0.061) *	-0.055 (0.048)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	29,501	28,769	16,449	16,062	13,823	13,461	8,448	8,247
R ²	0.460	0.358	0.504	0.462	0.478	0.363	0.517	0.445
Adjusted R ²	0.458		0.500		0.474		0.510	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Panel B: Factor ESG <i>Independent Variable</i>	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Factor ESG#Diversity: Current Directorships	-0.059 (0.031) *	0.028 (0.025)	-0.044 (0.029)	0.023 (0.022)	-0.089 (0.042) **	0.014 (0.031)	-0.065 (0.039) *	0.010 (0.029)
Factor ESG#Diversity: Past Directorships	-0.062 (0.040)	-0.047 (0.034)	-0.128 (0.043) ***	-0.014 (0.031)	-0.109 (0.052) **	-0.035 (0.041)	-0.149 (0.054) ***	-0.027 (0.038)
Factor ESG#Diversity: Gender	0.131 (0.038) ***	0.054 (0.032) *	0.134 (0.039) ***	0.041 (0.029)	0.040 (0.051)	0.035 (0.039)	0.085 (0.051) *	0.033 (0.037)
Factor ESG#Diversity: Age	0.243 (0.037) ***	0.063 (0.031) **	0.182 (0.036) ***	0.054 (0.026) **	0.241 (0.051) ***	0.046 (0.038)	0.190 (0.048) ***	0.022 (0.035)
Factor ESG#Diversity: Tenure	-0.046 (0.035)	-0.045 (0.028)	-0.057 (0.038)	-0.045 (0.027) *	-0.131 (0.048) ***	-0.068 (0.033) **	-0.125 (0.050) **	-0.071 (0.034) **
Factor ESG#Diversity: Nationality	-0.052 (0.025) **	-0.037 (0.023) *	-0.048 (0.025) *	-0.038 (0.020) *	-0.056 (0.035)	-0.032 (0.028)	-0.037 (0.034)	-0.041 (0.025)
Factor ESG#Diversity: Network Size	-0.165 (0.041) ***	0.004 (0.037)	-0.004 (0.038)	0.007 (0.032)	-0.229 (0.069) ***	-0.009 (0.050)	-0.049 (0.064)	0.010 (0.045)
Factor ESG#Diversity: Board Independence	0.056 (0.027) **	0.046 (0.025) *	0.059 (0.025) **	0.033 (0.022)	0.049 (0.037)	0.028 (0.031)	0.038 (0.034)	0.013 (0.028)
Factor ESG#Diversity: Number of Qualifications	-0.223 (0.041) ***	-0.004 (0.036)	-0.219 (0.041) ***	-0.018 (0.032)	-0.277 (0.058) ***	-0.057 (0.045)	-0.264 (0.058) ***	-0.044 (0.042)
Factor ESG#Diversity: Ethnicity			0.047 (0.028) *	0.042 (0.020) **			0.001 (0.039)	0.049 (0.027) *
Factor ESG#Diversity: Attendance			-0.088 (0.086)	-0.150 (0.066) **			-0.347 (0.110) ***	-0.225 (0.089) **
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	29,501	28,769	16,449	16,062	14,191	13,829	8,964	8,759
R ²	0.460	0.358	0.504	0.462	0.479	0.392	0.520	0.442
Adjusted R ²	0.458		0.500		0.475		0.513	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

54 Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1-2 and 5-6 report results from nine board diversity measures previously used as control variables and Columns 3-4 and 7-8 also include the additional board diversity measures ethnicity and attendance. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; # denotes an interaction effect of the variable on the left and on the right of #. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

performance on long-term performance. These effects hold in the unmatched and matched sample and are robust to correcting for reverse causality (firm fixed effects model) and the two extra diversity variables. Furthermore, there is some evidence that gender and ethnicity positively moderate on long-term performance. As both show significant moderation effects in some models, but not consistently in the fixed effect models or matched sample.

However, based on the factor weights ESG measure in Panel B one would conclude that ethnicity positively and tenure & attendance negatively moderate on long-term performance, as these are the only effects to hold in the matched sample and fixed effects models. Again, there are some indications of other moderating effects (past directorships, gender, age, nationality, and number of qualifications) but those are not robust for the matched sample and/or fixed effects models. So, there is no similarity between both overall ESG measures when comparing the robust moderating effects.

This contradiction between the two measures is also present for short-term performance (ROA) in Table 17. For equal weights (Panel A), the only measure consistent for matching and fixed effects models is ethnicity. On the other hand, for factor weights (Panel B) only age diversity is consistently significantly positive. Again, both ESG measures hint that other board diversities could significantly moderate specific ESG domains on short- and long-term performance.

The total factor strengths and concerns display an even more nuanced image (Table 18). On the long-term performance side (Panel A), strengths show a consistent and sizable positive significant moderation effect with age diversity and a negative moderation effect with attendance diversity. On the concerns side there is only a consistent sizable negative moderation effect with diversity in terms of network size. In firms where more directors have attendance problems (attend less than 75% of the meetings) strengths are significantly valued lower by shareholders. Attendance problems could signal that directors are neglecting their task or taking the task less seriously. Investors might be under the impression that strengths in such firms are the result of insufficient monitoring of directors and not because they create value, in line with the results from Adams & Ferreira (2009).

However, as Panel B shows, total factor strengths in firms with more attendance problems do not decrease (or increase) short-term performance. Investors might thus have the wrong impression of strengths in those firms since short-term performance is unaffected. Investors of such firms could also have a preference against ESG strengths independent of whether they create value.

The presented moderation effect of diversity of age on long-term value with respect to strengths is supported by a sizable and significantly positive moderation effect on short-term value. More age diversity could result in more diverse or effective ways to capture benefits from ESG strengths. Investors in turn recognize the effectiveness of the board and therefore value strengths higher in those firms. This pattern is also partially present for ESG concerns. Total factor concerns are more negatively valued in firms which have a more diverse board in terms of age. This negative moderation effect is also present with respect to short-term value, although the effect is insignificant in most specifications. Age-diverse boards seem to be put in place to either capture benefits from ESG strengths or decrease costs from

Table 17 Moderation effects of Diverse Boards on Overall (Factor) ESG Performance and Short-term Financial Performance (ROA)

Panel A: Equal Weights ESG <i>Independent Variable</i>	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG#Diversity: Current Directorships	-0.114 (0.160)	-0.011 (0.118)	-0.201 (0.134)	0.052 (0.097)	-0.535 (0.230) **	-0.209 (0.171)	-0.631 (0.196) ***	-0.026 (0.143)
ESG#Diversity: Past Directorships	-0.749 (0.211) ***	-0.071 (0.147)	-0.633 (0.185) ***	-0.250 (0.129) *	-0.239 (0.291)	-0.032 (0.209)	-0.469 (0.241) *	-0.208 (0.182)
ESG#Diversity: Gender	0.797 (0.185) ***	0.224 (0.142)	0.833 (0.170) ***	0.211 (0.123) *	0.623 (0.279) **	0.159 (0.205)	0.776 (0.239) ***	0.178 (0.176)
ESG#Diversity: Age	0.537 (0.195) ***	0.262 (0.143) *	0.545 (0.183) ***	0.346 (0.116) ***	0.458 (0.282)	0.259 (0.207)	0.357 (0.240)	0.265 (0.171)
ESG#Diversity: Tenure	0.164 (0.162)	-0.086 (0.120)	0.210 (0.150)	-0.047 (0.112)	0.132 (0.241)	0.067 (0.166)	0.069 (0.221)	-0.056 (0.159)
ESG#Diversity: Nationality	0.329 (0.136) **	-0.016 (0.106)	0.309 (0.119) ***	-0.046 (0.087)	0.593 (0.198) ***	-0.072 (0.150)	0.346 (0.171) **	-0.060 (0.124)
ESG#Diversity: Network Size	0.155 (0.199)	-0.096 (0.178)	-0.366 (0.174) **	-0.175 (0.146)	-0.309 (0.321)	-0.307 (0.269)	-0.315 (0.286)	-0.443 (0.222) **
ESG#Diversity: Board Independence	0.315 (0.136) **	0.210 (0.118) *	0.232 (0.118) *	0.166 (0.096) *	0.108 (0.189)	0.123 (0.164)	0.265 (0.162)	0.120 (0.134)
ESG#Diversity: Number of Qualifications	-0.386 (0.208) *	0.080 (0.165)	-0.354 (0.189) *	0.112 (0.139)	-0.187 (0.309)	0.164 (0.245)	-0.428 (0.275)	0.139 (0.207)
ESG#Diversity: Ethnicity			0.334 (0.121) ***	0.214 (0.089) **			0.282 (0.178)	0.236 (0.130) *
ESG#Diversity: Attendance			-0.250 (0.397)	0.187 (0.279)			-0.301 (0.572)	0.512 (0.392)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	29,457	29,443	16,425	16,418	13,801	13,793	8,450	8,445
R ²	0.333	0.301	0.266	0.415	0.341	0.237	0.292	0.361
Adjusted R ²	0.330		0.261		0.336		0.282	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects
Panel B: Factor ESG <i>Independent Variable</i>	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Factor ESG#Diversity: Current Directorships	-0.534 (0.293) *	-0.064 (0.230)	-0.631 (0.241) ***	0.109 (0.181)	-0.834 (0.381) **	-0.041 (0.295)	-0.667 (0.335) **	0.168 (0.240)
Factor ESG#Diversity: Past Directorships	-1.302 (0.406) ***	-0.043 (0.307)	-1.213 (0.361) ***	-0.355 (0.251)	-0.610 (0.489)	0.209 (0.382)	-0.895 (0.421) **	-0.152 (0.319)
Factor ESG#Diversity: Gender	1.189 (0.365) ***	0.464 (0.291)	1.013 (0.322) ***	0.294 (0.238)	1.585 (0.475) ***	0.287 (0.365)	1.068 (0.424) **	0.212 (0.310)
Factor ESG#Diversity: Age	1.126 (0.354) ***	0.429 (0.279)	0.926 (0.309) ***	0.496 (0.218) **	0.878 (0.460) *	0.600 (0.364)	0.532 (0.427)	0.573 (0.296) *
Factor ESG#Diversity: Tenure	-0.129 (0.321)	-0.234 (0.250)	0.157 (0.293)	-0.252 (0.221)	-0.785 (0.431) *	0.020 (0.315)	-0.392 (0.426)	-0.286 (0.299)
Factor ESG#Diversity: Nationality	0.748 (0.247) ***	0.024 (0.205)	0.541 (0.213) **	-0.033 (0.161)	1.064 (0.332) ***	0.153 (0.261)	0.691 (0.310) **	0.108 (0.213)
Factor ESG#Diversity: Network Size	-0.087 (0.343)	-0.125 (0.337)	-0.698 (0.297) **	-0.446 (0.262) *	-0.561 (0.525)	-0.277 (0.444)	-0.076 (0.464)	-0.236 (0.355)
Factor ESG#Diversity: Board Independence	0.255 (0.246)	0.261 (0.231)	0.240 (0.211)	0.225 (0.180)	0.324 (0.324)	0.286 (0.290)	0.133 (0.297)	0.250 (0.235)
Factor ESG#Diversity: Number of Qualifications	-1.324 (0.398) ***	0.092 (0.331)	-0.836 (0.341) **	0.254 (0.265)	-1.728 (0.508) ***	0.215 (0.417)	-1.244 (0.455) ***	0.107 (0.348)
Factor ESG#Diversity: Ethnicity			0.368 (0.215) *	0.183 (0.166)			0.216 (0.311)	0.218 (0.224)
Factor ESG#Diversity: Attendance			-0.618 (0.783)	0.185 (0.548)			-0.871 (1.104)	0.965 (0.706)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	29,457	29,443	16,425	16,418	14,288	14,280	8,989	8,985
R ²	0.332	0.301	0.266	0.414	0.324	0.257	0.296	0.354
Adjusted R ²	0.330		0.261		0.319		0.287	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

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Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1-2 and 5-6 report results from nine board diversity measures previously used as control variables and Columns 3-4 and 7-8 also include the additional board diversity measures ethnicity and attendance. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; # denotes an interaction effect of the variable on the left and on the right of #. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 18

Moderation effects of Diverse Boards on ESG Performance per Total Factor Strength & Concern and Short- and Long-term Financial Performance

Panel A: Long-term Performance (Tobin's Q) Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strengths#Diversity: Current Directorships	-0.078 (0.033) **	0.022 (0.026)	-0.045 (0.030)	0.022 (0.023)	-0.106 (0.045) **	0.069 (0.034) **	-0.066 (0.042)	0.032 (0.030)
Strengths#Diversity: Past Directorships	-0.075 (0.044) *	-0.053 (0.036)	-0.131 (0.044) ***	-0.006 (0.032)	-0.055 (0.054)	-0.034 (0.044)	-0.118 (0.057) **	-0.011 (0.041)
Strengths#Diversity: Gender	0.009 (0.042)	0.028 (0.034)	0.098 (0.040) **	0.040 (0.030)	-0.003 (0.056)	-0.002 (0.042)	0.087 (0.054)	0.003 (0.039)
Strengths#Diversity: Age	0.250 (0.039) ***	0.060 (0.032) *	0.187 (0.037) ***	0.053 (0.027) *	0.283 (0.056) ***	0.094 (0.042) **	0.219 (0.052) ***	0.043 (0.038)
Strengths#Diversity: Tenure	-0.047 (0.040)	-0.039 (0.030)	-0.060 (0.042)	-0.043 (0.030)	-0.158 (0.057) ***	-0.041 (0.038)	-0.169 (0.062) ***	-0.050 (0.039)
Strengths#Diversity: Nationality	-0.056 (0.026) **	-0.032 (0.024)	-0.042 (0.025) *	-0.037 (0.021) *	-0.042 (0.038)	-0.043 (0.030)	-0.019 (0.036)	-0.038 (0.027)
Strengths#Diversity: Network Size	-0.088 (0.041) **	0.023 (0.038)	0.024 (0.039)	0.023 (0.032)	-0.131 (0.070) *	-0.044 (0.052)	0.024 (0.065)	0.016 (0.046)
Strengths#Diversity: Board Independence	0.059 (0.029) **	0.045 (0.027) *	0.054 (0.026) **	0.036 (0.023)	0.033 (0.039)	0.030 (0.034)	0.003 (0.036)	0.021 (0.030)
Strengths#Diversity: Number of Qualifications	-0.231 (0.043) ***	-0.002 (0.039)	-0.235 (0.042) ***	-0.005 (0.034)	-0.276 (0.061) ***	-0.055 (0.048)	-0.274 (0.061) ***	-0.051 (0.044)
Strengths#Diversity: Ethnicity			0.044 (0.029)	0.043 (0.021) **			-0.018 (0.040)	0.050 (0.029) *
Strengths#Diversity: Attendance			-0.036 (0.093)	-0.139 (0.069) **			-0.287 (0.119) **	-0.215 (0.092) **
Concerns#Diversity: Current Directorships	0.052 (0.045)	-0.051 (0.043)	0.054 (0.044)	-0.025 (0.039)	0.073 (0.056)	-0.077 (0.054)	0.068 (0.053)	-0.038 (0.050)
Concerns#Diversity: Past Directorships	0.082 (0.061)	0.041 (0.056)	0.030 (0.071)	0.034 (0.053)	0.262 (0.080) ***	0.060 (0.071)	0.170 (0.085) **	0.012 (0.066)
Concerns#Diversity: Gender	-0.144 (0.059) **	-0.095 (0.054) *	-0.129 (0.065) **	-0.025 (0.051)	-0.051 (0.077)	-0.019 (0.070)	0.043 (0.078)	-0.017 (0.066)
Concerns#Diversity: Age	-0.169 (0.053) ***	-0.080 (0.049)	-0.157 (0.054) ***	-0.062 (0.043)	-0.074 (0.062)	-0.053 (0.059)	-0.131 (0.060) **	-0.066 (0.053)
Concerns#Diversity: Tenure	0.189 (0.041) ***	0.070 (0.039) *	0.114 (0.046) **	0.058 (0.038)	0.162 (0.048) ***	0.035 (0.047)	0.135 (0.050) ***	0.056 (0.046)
Concerns#Diversity: Nationality	0.070 (0.041) *	0.066 (0.039) *	0.061 (0.040)	0.056 (0.034)	0.038 (0.048)	0.079 (0.047) *	0.062 (0.046)	0.059 (0.043)
Concerns#Diversity: Network Size	0.417 (0.076) ***	0.060 (0.068)	0.441 (0.080) ***	0.078 (0.062)	0.453 (0.105) ***	0.195 (0.092) **	0.410 (0.108) ***	0.173 (0.085) **
Concerns#Diversity: Board Independence	-0.147 (0.040) ***	-0.056 (0.040)	-0.153 (0.040) ***	-0.022 (0.036)	-0.164 (0.048) ***	-0.012 (0.050)	-0.176 (0.047) ***	-0.015 (0.046)
Concerns#Diversity: Number of Qualifications	0.099 (0.063)	0.011 (0.064)	0.068 (0.064)	0.063 (0.058)	0.156 (0.077) **	0.058 (0.081)	0.128 (0.078)	0.096 (0.075)
Concerns#Diversity: Ethnicity			-0.048 (0.049)	-0.042 (0.036)			-0.069 (0.057)	-0.015 (0.044)
Concerns#Diversity: Attendance			0.215 (0.140)	0.174 (0.101) *			0.580 (0.172) ***	0.154 (0.133)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,501	28,769	16,449	16,062	14,191	13,954	8,964	8,801
R ²	0.467	0.358	0.507	0.462	0.483	0.371	0.523	0.456
Adjusted R ²	0.464		0.503		0.479		0.516	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

(Continued)

Table 18 (Continued)

Moderation effects of Diverse Boards on ESG Performance per Total Factor Strength & Concern and Short- and Long-term Financial Performance

Panel B: Short-term Performance (ROA)	Unmatched				Matched			
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strengths#Diversity: Current Directorships	-0.281 (0.298)	-0.012 (0.239)	-0.590 (0.246) **	0.164 (0.187)	-0.425 (0.390)	-0.089 0.298	-1.014 (0.331)	0.123 (0.252)
Strengths#Diversity: Past Directorships	-1.164 (0.413) ***	0.001 (0.328)	-1.072 (0.363) ***	-0.288 (0.264)	-0.754 (0.515)	-0.078 0.393	-0.588 (0.449)	0.041 (0.341)
Strengths#Diversity: Gender	0.573 (0.372)	0.278 (0.312)	0.453 (0.321)	0.193 (0.250)	0.211 (0.503) **	0.074 0.384	0.397 (0.436)	-0.046 (0.334)
Strengths#Diversity: Age	1.239 (0.366) ***	0.404 (0.290)	0.912 (0.317) ***	0.441 (0.224) *	1.256 (0.462) ***	0.470 0.360	0.845 (0.417) **	0.413 (0.302)
Strengths#Diversity: Tenure	-0.008 (0.338)	-0.284 (0.276)	0.280 (0.309)	-0.234 (0.242)	-0.800 (0.478) **	-0.067 0.345	-1.095 (0.433)	-0.414 (0.344)
Strengths#Diversity: Nationality	0.973 (0.251) ***	0.079 (0.217)	0.665 (0.213) ***	0.041 (0.170)	1.052 (0.339) ***	-0.133 0.269	0.655 (0.304) ***	-0.053 (0.228)
Strengths#Diversity: Network Size	0.004 (0.341)	-0.135 (0.348)	-0.477 (0.305)	-0.393 (0.268)	-0.078 (0.524)	-0.348 0.458	0.343 (0.501)	-0.145 (0.382)
Strengths#Diversity: Board Independence	-0.098 (0.249)	0.256 (0.246)	0.097 (0.214)	0.195 (0.191)	-0.460 (0.342)	0.096 0.309	-0.268 (0.307)	0.098 (0.260)
Strengths#Diversity: Number of Qualifications	-1.427 (0.403) ***	0.207 (0.352)	-0.956 (0.344) ***	0.346 (0.278)	-2.120 (0.525) ***	-0.165 0.420	-1.051 (0.455) ***	0.088 (0.358)
Strengths#Diversity: Ethnicity			0.287 (0.216)	0.131 (0.170)			0.039 (0.308)	0.133 (0.236)
Strengths#Diversity: Attendance			-0.794 (0.779)	-0.007 (0.573)			-1.629 (1.181)	0.427 (0.820)
Concerns#Diversity: Current Directorships	1.678 (0.471) ***	0.313 (0.391)	0.659 (0.422)	0.073 (0.321)	2.334 (0.580) ***	0.565 0.479	1.252 (0.520) *	0.095 (0.415)
Concerns#Diversity: Past Directorships	1.352 (0.704) *	0.183 (0.508)	1.671 (0.695) **	0.686 (0.437)	0.753 (0.855)	0.136 0.642	2.030 (0.809)	0.807 (0.556)
Concerns#Diversity: Gender	-4.034 (0.605) ***	-1.232 (0.491) **	-3.023 (0.604) ***	-0.745 (0.423) *	-3.601 (0.769) ***	-0.255 0.619	-2.704 (0.764) ***	-0.471 (0.546)
Concerns#Diversity: Age	-0.455 (0.534)	-0.477 (0.444)	-0.759 (0.495)	-0.698 (0.357) *	-0.066 (0.643)	-0.761 0.538	-0.181 (0.607)	-1.054 (0.456) **
Concerns#Diversity: Tenure	0.431 (0.453)	0.150 (0.357)	0.551 (0.425)	0.314 (0.316)	0.618 (0.531)	0.003 0.428	0.789 (0.495)	0.419 (0.396)
Concerns#Diversity: Nationality	-0.270 (0.427)	0.016 (0.351)	-0.249 (0.391)	0.264 (0.284)	-0.102 (0.509)	0.311 0.423	-0.251 (0.487)	0.246 (0.363)
Concerns#Diversity: Network Size	1.494 (0.757) **	-0.177 (0.621)	3.171 (0.687) ***	0.588 (0.508)	1.078 (0.961)	1.137 0.802	1.160 (0.922) **	0.613 (0.680)
Concerns#Diversity: Board Independence	-1.764 (0.400) ***	-0.261 (0.361)	-1.271 (0.368) ***	-0.274 (0.293)	-1.122 (0.488) **	-0.239 0.456	-1.064 (0.445)	-0.294 (0.390)
Concerns#Diversity: Number of Qualifications	1.234 (0.697) *	0.365 (0.579)	0.374 (0.643)	0.213 (0.482)	1.276 (0.825)	0.515 0.726	0.670 (0.783)	0.855 (0.628)
Concerns#Diversity: Ethnicity			-0.941 (0.446) **	-0.465 (0.293)			-0.929 (0.567) **	-0.659 (0.370) *
Concerns#Diversity: Attendance			-0.925 (1.316)	-1.001 (0.831)			0.347 (2.149)	-2.132 (1.164) *
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,457	29,443	16,425	16,418	14,288	14,319	8,989	9,083
R ²	0.334	0.301	0.270	0.415	0.326	0.291	0.300	0.368
Adjusted R ²	0.331		0.264		0.320		0.290	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1-2 and 5-6 report results from nine board diversity measures previously used as control variables and Columns 3-4 and 7-8 also include the additional board diversity measures ethnicity and attendance. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; # denotes an interaction effect of the variable on the left and on the right of #. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

concerns. However, it does raise the question of what precisely those boards are able to capture that is not obtained through experience (current & past directorships, tenure), resources (network size, number of qualifications) or cultural background (nationality, ethnicity).

Furthermore, network size-diverse boards positively and significantly moderate total factor concerns on long-term performance. Although the effect on short-term performance is not consistently significant over all model specifications, it does hint that such boards are able to transform often detrimental concerns into something beneficial. Gender- and ethnicity-diverse boards, on the other hand, show negative moderation effects with short-term performance but not consistently across model specifications with respect to long-term performance. Since they are not consistent over all model specifications, they could be present for only some specific domains instead of being a general effect.

Surprisingly, a lot of domain strengths and concerns show inconsistent moderating effects over model specifications for both short- (Table 20) and long-term performance (Table 19). For Tobin's Q and ROA, positive moderating effects of network size are inconsistent over model specifications for all domain strengths and concerns. There is some evidence that a moderating effect is present but not strongly enough to credibly claim an effect. So, diverse boards in terms of network size do not significantly influence specific domains but do influence the overall concern impact on the firm.

Environment strengths show some evidence that more diverse boards in terms of past directorships negatively moderate both short- and long-term performance, but the effects do not hold for the fixed effects models in the matched sample. The Environmental concern side does show some evidence supporting the results from Liu (2018). Concerns in firms with more gender-diverse boards result in significantly lower short-term performance. These firms might be undertaking action against Environmental concerns which causes incidental short-term costs/loses. Moreover, there is no moderation effect on long-term performance. Investors might recognize that short-term losses are necessary for the future, especially since the alternative could be very costly lawsuits which could hamper long-term performance. Simultaneously, this is also evidence that the previous found effects of gender diversity on financial performance (e.g. Adams & Ferreira, 2009; Ahern & Dittmar, 2012; Terjesen et al., 2016; Bennouri et al., 2018; Bennedsen et al., 2019) can be (partially) explained by the objectives of directors. Limiting detrimental effects from Environmental concerns is an example for gender-diverse boards.

There is no consistent evidence that any sort of board diversity moderates the effects of the Community, Human Rights (concerns), Employee Relations, Diversity and Product domains on short- and long-term performance. Human Rights strengths do show a strong significant moderation effect for current directorships (negative) and ethnicity (positive) on short-term performance. However, these effects are insignificant for long-term performance. Investors might be skeptical if the short-term effects can be translated into long-term benefits. There is also some evidence that age (positively) and tenure (negatively) moderate Employee Relations strengths on long-term performance. However, for age-

Table 19

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Long-term Financial Performance (Tobin's Q)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Environment Strength#Diversity: Current Directorships	-0.002 (0.060)	-0.003 (0.045)	-0.047 (0.058)	-0.021 (0.039)	0.036 (0.080)	-0.032 (0.057)	-0.055 (0.077)	-0.090 (0.054) *
Environment Strength#Diversity: Past Directorships	-0.410 (0.090) ***	-0.146 (0.064) **	-0.438 (0.093) ***	-0.150 (0.057) ***	-0.329 (0.105) ***	-0.110 (0.079)	-0.335 (0.112) ***	-0.088 (0.076)
Environment Strength#Diversity: Gender	-0.113 (0.074)	0.065 (0.058)	0.062 (0.075)	0.104 (0.053) **	-0.116 (0.098)	0.077 (0.073)	0.157 (0.100)	0.068 (0.070)
Environment Strength#Diversity: Age	0.037 (0.071)	-0.054 (0.057)	0.101 (0.069)	-0.026 (0.050)	0.048 (0.098)	-0.086 (0.076)	0.144 (0.095)	-0.030 (0.071)
Environment Strength#Diversity: Tenure	0.291 (0.052) ***	0.011 (0.050)	0.240 (0.069) ***	0.041 (0.053)	0.229 (0.066) ***	-0.010 (0.062)	0.175 (0.090) *	0.045 (0.074)
Environment Strength#Diversity: Nationality	0.003 (0.047)	-0.033 (0.039)	0.003 (0.048)	-0.044 (0.034)	0.028 (0.065)	-0.005 (0.050)	0.034 (0.067)	-0.044 (0.048)
Environment Strength#Diversity: Network Size	0.439 (0.087) ***	0.147 (0.069) **	0.390 (0.092) ***	0.096 (0.060)	0.469 (0.115) ***	0.159 (0.091) *	0.486 (0.128) ***	0.114 (0.085)
Environment Strength#Diversity: Board Independence	-0.115 (0.053) **	-0.023 (0.050)	-0.064 (0.050)	0.008 (0.043)	-0.094 (0.068)	-0.061 (0.062)	-0.067 (0.069)	-0.026 (0.057)
Environment Strength#Diversity: Number of Qualifications	-0.177 (0.075) **	0.003 (0.063)	-0.209 (0.073) ***	-0.029 (0.055)	-0.170 (0.101) *	0.000 (0.083)	-0.226 (0.100) **	-0.025 (0.077)
Environment Strength#Diversity: Ethnicity			0.063 (0.052)	0.044 (0.039)			-0.001 (0.070)	0.042 (0.053)
Environment Strength#Diversity: Attendance			-0.252 (0.200)	-0.106 (0.134)			-0.347 (0.289)	-0.131 (0.174)
Environment Concern#Diversity: Current Directorships	-0.029 (0.061)	-0.087 (0.065)	-0.036 (0.060)	-0.002 (0.059)	0.025 (0.086)	0.012 (0.092)	-0.057 (0.087)	-0.012 (0.086)
Environment Concern#Diversity: Past Directorships	0.258 (0.080) ***	0.046 (0.087)	0.235 (0.089) ***	-0.017 (0.084)	0.239 (0.111) **	-0.008 (0.127)	0.232 (0.134) *	0.018 (0.125)
Environment Concern#Diversity: Gender	-0.273 (0.076) ***	-0.142 (0.083) *	-0.122 (0.083)	-0.100 (0.078)	-0.175 (0.117)	-0.053 (0.123)	-0.170 (0.130)	0.024 (0.121)
Environment Concern#Diversity: Age	-0.192 (0.071) ***	-0.008 (0.071)	-0.080 (0.077)	0.012 (0.064)	-0.300 (0.101) ***	0.026 (0.102)	-0.156 (0.113)	0.004 (0.099)
Environment Concern#Diversity: Tenure	0.012 (0.044)	0.021 (0.057)	-0.040 (0.051)	0.012 (0.056)	-0.076 (0.066)	-0.041 (0.082)	-0.146 (0.085) *	-0.030 (0.087)
Environment Concern#Diversity: Nationality	0.045 (0.056)	0.074 (0.059)	-0.034 (0.054)	0.062 (0.054)	0.057 (0.077)	0.105 (0.082)	-0.014 (0.079)	0.056 (0.078)
Environment Concern#Diversity: Network Size	0.071 (0.090)	-0.013 (0.104)	0.186 (0.097) *	0.005 (0.093)	0.041 (0.132)	-0.025 (0.153)	0.128 (0.141)	0.113 (0.140)
Environment Concern#Diversity: Board Independence	-0.004 (0.046)	-0.081 (0.057)	-0.034 (0.048)	-0.067 (0.051)	-0.088 (0.066)	-0.057 (0.087)	-0.061 (0.072)	-0.052 (0.079)
Environment Concern#Diversity: Number of Qualifications	0.047 (0.079)	0.062 (0.095)	0.106 (0.083)	0.018 (0.088)	0.242 (0.112) **	0.094 (0.135)	0.312 (0.117) ***	-0.025 (0.136)
Environment Concern#Diversity: Ethnicity			-0.077 (0.057)	-0.004 (0.054)			0.024 (0.091)	0.033 (0.080)
Environment Concern#Diversity: Attendance			0.037 (0.176)	-0.081 (0.168)			0.344 (0.290)	0.088 (0.247)
Community Strength#Diversity: Current Directorships	-0.273 (0.101) ***	-0.019 (0.091)	-0.273 (0.096) ***	0.021 (0.080)	-0.157 (0.122)	-0.001 (0.107)	-0.287 (0.118) **	-0.002 (0.099)
Community Strength#Diversity: Past Directorships	0.292 (0.106) ***	-0.007 (0.105)	0.226 (0.124) *	0.039 (0.100)	0.262 (0.134) *	0.007 (0.122)	0.328 (0.161) **	0.091 (0.123)
Community Strength#Diversity: Gender	-0.209 (0.123) *	-0.042 (0.117)	0.006 (0.142)	-0.037 (0.111)	-0.256 (0.150) *	-0.050 (0.136)	-0.299 (0.173) *	-0.051 (0.138)
Community Strength#Diversity: Age	0.126 (0.129)	0.000 (0.110)	-0.058 (0.123)	0.020 (0.098)	0.222 (0.163)	0.086 (0.137)	0.045 (0.163)	0.116 (0.130)
Community Strength#Diversity: Tenure	-0.197 (0.111) *	-0.161 (0.096) *	-0.090 (0.110)	-0.112 (0.091)	-0.129 (0.142)	-0.213 (0.119) *	0.003 (0.131)	-0.023 (0.119)
Community Strength#Diversity: Nationality	0.050 (0.097)	-0.077 (0.084)	0.006 (0.092)	-0.081 (0.073)	0.058 (0.119)	-0.083 (0.099)	-0.130 (0.113)	-0.072 (0.090)
Community Strength#Diversity: Network Size	-0.107 (0.160)	-0.025 (0.139)	-0.171 (0.155)	-0.050 (0.122)	-0.370 (0.201) *	0.054 (0.172)	-0.322 (0.200)	-0.002 (0.160)
Community Strength#Diversity: Board Independence	-0.016 (0.084)	-0.008 (0.080)	0.024 (0.080)	0.004 (0.072)	0.058 (0.107)	-0.010 (0.098)	0.074 (0.105)	-0.040 (0.093)
Community Strength#Diversity: Number of Qualifications	-0.261 (0.133) **	-0.009 (0.120)	-0.270 (0.151) *	-0.047 (0.117)	-0.174 (0.159)	-0.161 (0.138)	-0.199 (0.183)	-0.131 (0.145)
Community Strength#Diversity: Ethnicity			0.000 (0.097)	0.040 (0.072)			0.077 (0.124)	0.090 (0.092)
Community Strength#Diversity: Attendance			0.492 (0.289) *	0.059 (0.237)			0.593 (0.370)	0.220 (0.294)
Community Concern#Diversity: Current Directorships	-0.167 (0.145)	-0.185 (0.139)	-0.179 (0.153)	-0.261 (0.126) **	-0.210 (0.233)	-0.382 (0.195) *	-0.289 (0.255)	-0.319 (0.181) *
Community Concern#Diversity: Past Directorships	0.200 (0.116) *	0.140 (0.155)	-0.005 (0.154)	0.044 (0.166)	0.220 (0.191)	0.213 (0.229)	-0.155 (0.248)	0.085 (0.241)
Community Concern#Diversity: Gender	-0.114 (0.148)	-0.084 (0.157)	-0.024 (0.166)	-0.056 (0.155)	-0.137 (0.237)	-0.216 (0.234)	-0.042 (0.281)	-0.239 (0.231)
Community Concern#Diversity: Age	-0.353 (0.190) *	0.060 (0.162)	-0.509 (0.214) **	0.122 (0.148)	-0.144 (0.315)	-0.049 (0.240)	-0.429 (0.351)	-0.012 (0.227)
Community Concern#Diversity: Tenure	0.139 (0.097)	0.042 (0.129)	0.200 (0.110) *	0.040 (0.122)	0.145 (0.163)	0.180 (0.198)	0.296 (0.194)	0.040 (0.198)
Community Concern#Diversity: Nationality	0.337 (0.158) **	-0.029 (0.132)	0.228 (0.155)	-0.073 (0.118)	0.181 (0.214)	0.020 (0.179)	0.051 (0.216)	0.089 (0.165)
Community Concern#Diversity: Network Size	0.070 (0.184)	-0.110 (0.200)	-0.131 (0.230)	-0.283 (0.195)	0.258 (0.336)	-0.056 (0.295)	0.089 (0.372)	-0.290 (0.297)
Community Concern#Diversity: Board Independence	-0.109 (0.101)	-0.056 (0.116)	-0.223 (0.103) **	0.007 (0.108)	-0.144 (0.160)	0.319 (0.169) *	-0.238 (0.166)	0.153 (0.161)
Community Concern#Diversity: Number of Qualifications	-0.152 (0.162)	-0.104 (0.196)	-0.270 (0.192)	0.003 (0.176)	-0.521 (0.258) **	0.144 (0.287)	-0.588 (0.286) **	0.368 (0.262)
Community Concern#Diversity: Ethnicity			0.033 (0.129)	0.112 (0.113)			-0.136 (0.208)	0.028 (0.170)
Community Concern#Diversity: Attendance			0.013 (0.383)	-0.018 (0.364)			-0.769 (0.599)	-0.377 (0.509)
Human Rights Strength#Diversity: Current Directorships	0.435 (0.146) ***	0.027 (0.154)	0.441 (0.206) **	0.006 (0.147)	0.482 (0.197) **	0.029 (0.203)	0.692 (0.339) **	0.131 (0.221)
Human Rights Strength#Diversity: Past Directorships	0.056 (0.208)	-0.163 (0.206)	0.062 (0.299)	-0.146 (0.231)	-0.026 (0.290)	-0.026 (0.253)	0.496 (0.392)	0.080 (0.304)
Human Rights Strength#Diversity: Gender	0.427 (0.163) ***	-0.047 (0.187)	0.370 (0.249)	-0.119 (0.190)	0.346 (0.199) *	-0.146 (0.232)	0.367 (0.322)	-0.113 (0.255)
Human Rights Strength#Diversity: Age	0.407 (0.177) **	0.046 (0.183)	0.275 (0.286)	-0.064 (0.168)	0.386 (0.236)	0.132 (0.258)	0.000 (0.403)	0.066 (0.259)
Human Rights Strength#Diversity: Tenure	0.326 (0.130) **	-0.070 (0.157)	0.160 (0.234)	0.003 (0.179)	0.202 (0.160)	-0.234 (0.201)	0.127 (0.336)	-0.406 (0.245) *
Human Rights Strength#Diversity: Nationality	-0.298 (0.120) **	0.056 (0.139)	-0.147 (0.180)	0.037 (0.134)	-0.605 (0.158) ***	-0.068 (0.177)	-0.257 (0.265)	-0.095 (0.185)
Human Rights Strength#Diversity: Network Size	0.033 (0.269)	0.274 (0.251)	0.076 (0.367)	0.187 (0.247)	-0.334 (0.311)	0.082 (0.355)	-0.301 (0.495)	-0.260 (0.382)
Human Rights Strength#Diversity: Board Independence	0.201 (0.195)	0.122 (0.220)	-0.026 (0.315)	0.157 (0.198)	-0.080 (0.287)	0.065 (0.290)	-0.535 (0.425)	0.085 (0.290)
Human Rights Strength#Diversity: Number of Qualifications	-0.203 (0.159)	0.100 (0.206)	-0.287 (0.281)	0.016 (0.210)	-0.173 (0.204)	-0.047 (0.246)	-0.457 (0.397)	-0.104 (0.283)
Human Rights Strength#Diversity: Ethnicity			-0.239 (0.198)	0.103 (0.156)			-0.732 (0.265) ***	-0.140 (0.216)
Human Rights Strength#Diversity: Attendance			0.331 (0.636)	0.402 (0.546)			1.041 (1.130)	0.665 (0.903)

(Continued)

Table 19 (Continued)

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Long-term Financial Performance (Tobin's Q)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Human Rights Concern#Diversity: Current Directorships	0.154 (0.181)	0.111 (0.146)	0.193 (0.167)	0.104 (0.134)	0.335 (0.249)	0.231 (0.210)	0.309 (0.226)	0.201 (0.195)
Human Rights Concern#Diversity: Past Directorships	-0.034 (0.238)	-0.109 (0.190)	-0.133 (0.272)	-0.044 (0.182)	-0.107 (0.435)	-0.383 (0.280)	-0.328 (0.471)	-0.259 (0.273)
Human Rights Concern#Diversity: Gender	-0.542 (0.193) ***	-0.245 (0.172)	-0.518 (0.230) **	-0.222 (0.170)	-0.628 (0.318) **	-0.329 (0.273)	-0.515 (0.360)	-0.257 (0.282)
Human Rights Concern#Diversity: Age	0.407 (0.218) *	-0.070 (0.173)	0.365 (0.225)	-0.124 (0.158)	0.930 (0.279) ***	-0.100 (0.252)	0.833 (0.288) ***	0.003 (0.240)
Human Rights Concern#Diversity: Tenure	0.148 (0.139)	-0.070 (0.147)	0.029 (0.175)	-0.098 (0.147)	0.154 (0.197)	0.118 (0.229)	-0.077 (0.212)	0.028 (0.233)
Human Rights Concern#Diversity: Nationality	0.329 (0.133) **	0.103 (0.136)	0.101 (0.142)	0.131 (0.125)	0.472 (0.174) ***	0.129 (0.185)	0.238 (0.183)	0.008 (0.173)
Human Rights Concern#Diversity: Network Size	0.577 (0.252) **	0.039 (0.218)	0.361 (0.252)	0.032 (0.202)	0.846 (0.397) **	0.028 (0.352)	0.642 (0.370) *	-0.050 (0.327)
Human Rights Concern#Diversity: Board Independence	0.060 (0.139)	0.203 (0.135)	0.128 (0.143)	0.153 (0.124)	0.201 (0.207)	0.131 (0.204)	0.123 (0.199)	0.040 (0.192)
Human Rights Concern#Diversity: Number of Qualifications	-0.152 (0.229)	0.376 (0.206) *	-0.276 (0.226)	0.325 (0.195) *	-0.329 (0.337)	0.038 (0.338)	-0.195 (0.319)	0.061 (0.317)
Human Rights Concern#Diversity: Ethnicity			0.180 (0.153)	0.067 (0.130)			0.448 (0.238) *	0.256 (0.198)
Human Rights Concern#Diversity: Attendance			0.717 (0.430) *	-0.088 (0.369)			0.533 (0.678)	-0.284 (0.525)
Employee Relations Strength#Diversity: Current Directorships	0.025 (0.049)	0.008 (0.036)	0.106 (0.048) **	0.027 (0.032)	0.051 (0.065)	0.025 (0.046)	0.160 (0.066) **	0.046 (0.044)
Employee Relations Strength#Diversity: Past Directorships	-0.075 (0.073)	-0.040 (0.046)	-0.103 (0.077)	0.003 (0.042)	-0.098 (0.093)	-0.055 (0.057)	-0.127 (0.099)	-0.019 (0.055)
Employee Relations Strength#Diversity: Gender	0.003 (0.062)	-0.032 (0.044)	-0.002 (0.067)	-0.029 (0.041)	-0.032 (0.082)	-0.044 (0.055)	0.007 (0.089)	-0.013 (0.053)
Employee Relations Strength#Diversity: Age	0.085 (0.067)	0.062 (0.047)	0.159 (0.067) **	0.079 (0.042) *	0.085 (0.091)	0.096 (0.058) *	0.177 (0.092) *	0.118 (0.055) **
Employee Relations Strength#Diversity: Tenure	-0.088 (0.051) *	-0.062 (0.036) *	-0.206 (0.068) ***	-0.111 (0.040) ***	-0.170 (0.066) **	-0.021 (0.046)	-0.338 (0.094) ***	-0.074 (0.055)
Employee Relations Strength#Diversity: Nationality	-0.044 (0.042)	-0.027 (0.032)	-0.082 (0.043) *	-0.029 (0.029)	-0.059 (0.058)	-0.080 (0.042) *	-0.122 (0.061) **	-0.106 (0.040) ***
Employee Relations Strength#Diversity: Network Size	-0.313 (0.082) ***	-0.062 (0.055)	-0.166 (0.088) *	-0.046 (0.049)	-0.308 (0.111) ***	-0.096 (0.070)	-0.164 (0.130)	-0.013 (0.068)
Employee Relations Strength#Diversity: Board Independence	0.099 (0.048) **	0.022 (0.038)	0.038 (0.046)	0.020 (0.033)	0.051 (0.066)	-0.017 (0.049)	-0.025 (0.064)	-0.011 (0.045)
Employee Relations Strength#Diversity: Number of Qualifications	-0.036 (0.070)	-0.068 (0.053)	-0.083 (0.071)	-0.031 (0.048)	-0.037 (0.101)	-0.145 (0.070) **	-0.141 (0.106)	-0.112 (0.068)
Employee Relations Strength#Diversity: Ethnicity			0.044 (0.050)	0.019 (0.030)			0.098 (0.070)	0.007 (0.041)
Employee Relations Strength#Diversity: Attendance			-0.211 (0.158)	-0.065 (0.113)			-0.260 (0.210)	0.098 (0.148)
Employee Relations Concern#Diversity: Current Directorships	0.037 (0.075)	0.016 (0.052)	0.108 (0.067)	-0.020 (0.054)	-0.074 (0.104)	-0.100 (0.085)	0.133 (0.107)	-0.019 (0.084)
Employee Relations Concern#Diversity: Past Directorships	-0.062 (0.079)	0.045 (0.060)	-0.121 (0.102)	0.121 (0.064) *	0.040 (0.148)	0.105 (0.104)	0.060 (0.193)	0.083 (0.109)
Employee Relations Concern#Diversity: Gender	0.154 (0.074) **	0.133 (0.060) **	0.002 (0.088)	0.063 (0.064)	0.236 (0.133) *	0.146 (0.104)	0.011 (0.150)	0.053 (0.106)
Employee Relations Concern#Diversity: Age	-0.020 (0.084)	-0.044 (0.065)	-0.019 (0.089)	-0.017 (0.064)	-0.018 (0.142)	0.021 (0.110)	-0.100 (0.152)	-0.045 (0.108)
Employee Relations Concern#Diversity: Tenure	0.126 (0.059) **	0.118 (0.050) **	0.171 (0.073) **	0.110 (0.057) *	0.185 (0.096) *	0.068 (0.086)	0.171 (0.110)	0.104 (0.096)
Employee Relations Concern#Diversity: Nationality	-0.077 (0.064)	-0.021 (0.051)	0.027 (0.067)	-0.030 (0.052)	-0.102 (0.098)	-0.048 (0.078)	-0.008 (0.099)	-0.041 (0.075)
Employee Relations Concern#Diversity: Network Size	0.308 (0.098) ***	0.087 (0.077)	0.363 (0.100) ***	0.097 (0.079)	0.293 (0.164) *	0.071 (0.133)	0.097 (0.169)	-0.008 (0.132)
Employee Relations Concern#Diversity: Board Independence	-0.226 (0.054) ***	-0.066 (0.047)	-0.085 (0.059)	-0.016 (0.046)	-0.182 (0.092) **	0.041 (0.077)	0.006 (0.097)	0.027 (0.074)
Employee Relations Concern#Diversity: Number of Qualifications	0.135 (0.086)	-0.073 (0.072)	0.100 (0.097)	-0.012 (0.075)	0.217 (0.145)	-0.070 (0.124)	0.151 (0.151)	0.000 (0.123)
Employee Relations Concern#Diversity: Ethnicity			-0.090 (0.068)	-0.037 (0.047)			-0.119 (0.109)	-0.021 (0.075)
Employee Relations Concern#Diversity: Attendance			0.508 (0.208) **	0.319 (0.144) **			0.350 (0.413)	0.268 (0.242)
Diversity Strength#Diversity: Current Directorships	-0.216 (0.081) ***	0.071 (0.066)	-0.166 (0.079) **	0.022 (0.057)	-0.173 (0.105)	0.082 (0.082)	-0.136 (0.102)	0.001 (0.074)
Diversity Strength#Diversity: Past Directorships	-0.035 (0.125)	0.123 (0.088)	-0.009 (0.137)	0.174 (0.078) **	-0.106 (0.160)	0.038 (0.104)	-0.124 (0.176)	-0.030 (0.097)
Diversity Strength#Diversity: Gender	0.044 (0.097)	0.025 (0.084)	-0.036 (0.099)	0.039 (0.075)	0.178 (0.124)	0.116 (0.106)	0.186 (0.122)	0.096 (0.097)
Diversity Strength#Diversity: Age	0.303 (0.104) ***	0.044 (0.083)	0.198 (0.103) *	0.025 (0.072)	0.288 (0.139) **	0.092 (0.105)	0.217 (0.141)	0.029 (0.096)
Diversity Strength#Diversity: Tenure	-0.014 (0.086)	0.066 (0.072)	0.097 (0.086)	0.043 (0.066)	-0.035 (0.115)	-0.018 (0.094)	-0.007 (0.116)	-0.077 (0.090)
Diversity Strength#Diversity: Nationality	-0.046 (0.070)	0.045 (0.060)	-0.004 (0.066)	0.030 (0.051)	-0.005 (0.090)	0.054 (0.074)	0.046 (0.086)	0.043 (0.066)
Diversity Strength#Diversity: Network Size	-0.154 (0.115)	-0.067 (0.095)	-0.113 (0.112)	0.034 (0.083)	-0.116 (0.154)	-0.151 (0.127)	0.071 (0.154)	-0.046 (0.117)
Diversity Strength#Diversity: Board Independence	0.064 (0.066)	0.096 (0.061)	0.093 (0.064)	0.065 (0.053)	0.028 (0.087)	0.064 (0.075)	0.051 (0.085)	0.086 (0.068)
Diversity Strength#Diversity: Number of Qualifications	-0.279 (0.118) **	0.079 (0.095)	-0.274 (0.118) **	0.096 (0.084)	-0.511 (0.151) ***	-0.006 (0.118)	-0.476 (0.153) ***	0.048 (0.110)
Diversity Strength#Diversity: Ethnicity			0.048 (0.073)	0.085 (0.052)			-0.001 (0.095)	0.079 (0.067)
Diversity Strength#Diversity: Attendance			-0.065 (0.228)	-0.216 (0.166)			-0.461 (0.300)	-0.440 (0.219) **
Diversity Concern#Diversity: Current Directorships	-0.011 (0.084)	-0.090 (0.061)	-0.030 (0.100)	-0.158 (0.068) **	0.130 (0.144)	-0.056 (0.103)	0.079 (0.152)	-0.205 (0.111) *
Diversity Concern#Diversity: Past Directorships	-0.308 (0.092) ***	-0.044 (0.063)	-0.271 (0.121) **	-0.094 (0.073)	-0.424 (0.161) ***	-0.075 (0.110)	-0.567 (0.206) ***	-0.058 (0.120)
Diversity Concern#Diversity: Gender	-0.150 (0.100)	-0.032 (0.071)	-0.030 (0.111)	0.002 (0.076)	-0.221 (0.167)	0.009 (0.114)	0.127 (0.178)	0.066 (0.119)
Diversity Concern#Diversity: Age	-0.216 (0.112) *	-0.024 (0.073)	-0.047 (0.138)	-0.024 (0.080)	0.167 (0.197)	0.145 (0.128)	0.009 (0.202)	0.085 (0.140)
Diversity Concern#Diversity: Tenure	-0.015 (0.076)	-0.060 (0.053)	-0.188 (0.106) *	-0.015 (0.069)	-0.171 (0.133)	0.076 (0.091)	-0.194 (0.164)	0.010 (0.114)
Diversity Concern#Diversity: Nationality	0.100 (0.092)	0.028 (0.060)	0.047 (0.100)	0.021 (0.066)	-0.008 (0.153)	-0.098 (0.098)	-0.007 (0.151)	-0.129 (0.104)
Diversity Concern#Diversity: Network Size	-0.294 (0.126) **	-0.048 (0.086)	-0.034 (0.144)	-0.183 (0.098) *	-0.523 (0.243) **	-0.137 (0.152)	0.007 (0.250)	-0.200 (0.166)
Diversity Concern#Diversity: Board Independence	-0.050 (0.073)	-0.119 (0.055) **	-0.135 (0.085)	-0.092 (0.058)	-0.099 (0.123)	-0.200 (0.092) **	-0.131 (0.130)	-0.075 (0.094)
Diversity Concern#Diversity: Number of Qualifications	0.032 (0.109)	-0.005 (0.076)	0.086 (0.131)	0.027 (0.088)	-0.085 (0.198)	0.055 (0.135)	0.079 (0.214)	0.000 (0.148)
Diversity Concern#Diversity: Ethnicity			-0.090 (0.092)	-0.078 (0.058)			0.053 (0.140)	-0.089 (0.096)
Diversity Concern#Diversity: Attendance			-0.229 (0.266)	-0.297 (0.192)			-0.245 (0.467)	-0.445 (0.335)

(Continued)

Table 19 (Continued)

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Long-term Financial Performance (Tobin's Q)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Product Strength#Diversity: Current Directorships	-0.100 (0.135)	-0.095 (0.089)	-0.086 (0.132)	-0.074 (0.087)	-0.085 (0.178)	-0.073 (0.111)	-0.046 (0.171)	0.076 (0.115)
Product Strength#Diversity: Past Directorships	0.589 (0.146) ***	0.179 (0.105) *	0.600 (0.153) ***	0.161 (0.108)	0.564 (0.193) ***	0.091 (0.126)	0.649 (0.199) ***	0.142 (0.138)
Product Strength#Diversity: Gender	0.302 (0.163) *	0.110 (0.106)	0.295 (0.185)	0.046 (0.109)	0.449 (0.208) **	0.107 (0.131)	0.441 (0.235) *	0.101 (0.142)
Product Strength#Diversity: Age	0.615 (0.186) ***	0.353 (0.117) ***	0.579 (0.194) ***	0.152 (0.111)	0.741 (0.246) ***	0.330 (0.146) **	0.549 (0.262) **	0.131 (0.149)
Product Strength#Diversity: Tenure	-0.276 (0.127) **	0.059 (0.084)	-0.077 (0.169)	-0.033 (0.100)	-0.489 (0.163) ***	0.028 (0.101)	-0.196 (0.234)	-0.222 (0.132) *
Product Strength#Diversity: Nationality	-0.137 (0.124)	-0.040 (0.081)	-0.064 (0.133)	0.044 (0.078)	-0.222 (0.166)	-0.041 (0.102)	-0.040 (0.181)	-0.025 (0.103)
Product Strength#Diversity: Network Size	-0.467 (0.228) **	0.031 (0.133)	-0.378 (0.230)	0.073 (0.130)	-0.789 (0.303) ***	0.052 (0.162)	-0.697 (0.308) **	-0.024 (0.173)
Product Strength#Diversity: Board Independence	-0.052 (0.132)	0.027 (0.092)	-0.232 (0.144)	-0.041 (0.101)	-0.044 (0.165)	0.182 (0.112)	-0.301 (0.190)	-0.009 (0.134)
Product Strength#Diversity: Number of Qualifications	-0.334 (0.196) *	-0.026 (0.120)	-0.443 (0.194) **	-0.059 (0.119)	-0.292 (0.261)	0.172 (0.152)	-0.333 (0.260)	0.057 (0.161)
Product Strength#Diversity: Ethnicity			-0.131 (0.131)	-0.021 (0.079)			-0.237 (0.168)	0.025 (0.102)
Product Strength#Diversity: Attendance			1.324 (0.544) **	0.163 (0.273)			1.044 (0.723)	0.186 (0.347)
Product Concern#Diversity: Current Directorships	0.083 (0.076)	-0.031 (0.070)	0.048 (0.082)	0.005 (0.063)	0.035 (0.112)	-0.009 (0.098)	0.016 (0.120)	0.019 (0.091)
Product Concern#Diversity: Past Directorships	0.064 (0.103)	-0.010 (0.089)	0.038 (0.126)	-0.035 (0.084)	0.436 (0.147) ***	0.196 (0.128)	0.300 (0.161) *	0.114 (0.120)
Product Concern#Diversity: Gender	0.108 (0.089)	-0.034 (0.085)	0.173 (0.102) *	0.099 (0.083)	0.056 (0.147)	-0.047 (0.128)	0.127 (0.159)	-0.001 (0.123)
Product Concern#Diversity: Age	-0.259 (0.102) **	-0.055 (0.082)	-0.200 (0.114) *	0.032 (0.074)	-0.169 (0.154)	-0.087 (0.130)	-0.202 (0.170)	0.009 (0.121)
Product Concern#Diversity: Tenure	0.080 (0.074)	0.041 (0.065)	0.022 (0.096)	0.000 (0.065)	0.103 (0.106)	0.108 (0.095)	0.108 (0.131)	0.074 (0.102)
Product Concern#Diversity: Nationality	-0.026 (0.071)	0.030 (0.063)	-0.041 (0.075)	0.022 (0.057)	-0.104 (0.104)	0.000 (0.086)	-0.058 (0.109)	0.040 (0.079)
Product Concern#Diversity: Network Size	0.191 (0.126)	0.061 (0.107)	0.411 (0.139) ***	0.012 (0.099)	0.080 (0.207)	0.059 (0.156)	0.244 (0.219)	-0.023 (0.145)
Product Concern#Diversity: Board Independence	-0.081 (0.064)	-0.125 (0.063) **	0.077 (0.069)	0.049 (0.057)	-0.050 (0.098)	-0.095 (0.090)	0.125 (0.103)	0.054 (0.082)
Product Concern#Diversity: Number of Qualifications	0.138 (0.101)	0.048 (0.103)	0.140 (0.112)	0.031 (0.097)	0.253 (0.144) *	0.162 (0.152)	0.145 (0.172)	0.141 (0.146)
Product Concern#Diversity: Ethnicity			-0.101 (0.081)	-0.083 (0.056)			-0.150 (0.123)	-0.024 (0.080)
Product Concern#Diversity: Attendance			-0.176 (0.280)	0.126 (0.176)			0.058 (0.466)	0.353 (0.279)
Corporate Governance Strength#Diversity: Current Directorships	0.231 (0.116) **	0.050 (0.082)	0.293 (0.126) **	0.118 (0.091)	-0.012 (0.151)	-0.113 (0.112)	0.331 (0.176) *	0.249 (0.128) *
Corporate Governance Strength#Diversity: Past Directorships	-0.245 (0.106) **	-0.206 (0.079) ***	-0.338 (0.167) **	-0.182 (0.099) *	-0.302 (0.145) **	-0.175 (0.113)	-0.472 (0.201) **	-0.361 (0.135) ***
Corporate Governance Strength#Diversity: Gender	-0.141 (0.115)	0.012 (0.086)	-0.142 (0.141)	0.043 (0.099)	-0.172 (0.163)	-0.067 (0.121)	0.039 (0.198)	-0.028 (0.143)
Corporate Governance Strength#Diversity: Age	-0.048 (0.132)	0.135 (0.097)	-0.443 (0.164) ***	0.058 (0.105)	-0.010 (0.187)	0.079 (0.137)	-0.553 (0.236) **	-0.155 (0.152)
Corporate Governance Strength#Diversity: Tenure	0.066 (0.089)	0.015 (0.072)	0.042 (0.137)	0.072 (0.099)	0.004 (0.113)	0.114 (0.097)	0.044 (0.187)	0.179 (0.137)
Corporate Governance Strength#Diversity: Nationality	0.189 (0.101) *	0.046 (0.075)	0.238 (0.109) **	0.006 (0.078)	0.194 (0.132)	0.081 (0.102)	0.280 (0.145) *	0.100 (0.108)
Corporate Governance Strength#Diversity: Network Size	-0.201 (0.144)	-0.021 (0.108)	-0.030 (0.174)	-0.068 (0.126)	0.205 (0.205)	0.140 (0.157)	0.101 (0.240)	0.196 (0.183)
Corporate Governance Strength#Diversity: Board Independence	0.105 (0.089)	-0.040 (0.070)	0.199 (0.102) *	-0.061 (0.076)	-0.014 (0.120)	-0.226 (0.097) **	0.044 (0.138)	-0.103 (0.107)
Corporate Governance Strength#Diversity: Number of Qualifications	0.229 (0.154)	0.060 (0.102)	0.484 (0.160) ***	0.075 (0.115)	0.305 (0.224)	0.196 (0.144)	0.411 (0.211) *	0.084 (0.161)
Corporate Governance Strength#Diversity: Ethnicity			0.107 (0.117)	-0.054 (0.078)			-0.062 (0.150)	-0.204 (0.107) *
Corporate Governance Strength#Diversity: Attendance			-0.522 (0.335)	-0.021 (0.243)			-0.814 (0.460) *	-0.174 (0.338)
Corporate Governance Concern#Diversity: Current Directorships	0.033 (0.073)	-0.004 (0.057)	0.038 (0.076)	0.037 (0.057)	-0.033 (0.107)	-0.027 (0.092)	0.090 (0.114)	0.036 (0.090)
Corporate Governance Concern#Diversity: Past Directorships	-0.030 (0.091)	-0.121 (0.066) *	-0.032 (0.105)	-0.110 (0.069)	-0.080 (0.142)	-0.206 (0.114) *	-0.130 (0.167)	-0.079 (0.114)
Corporate Governance Concern#Diversity: Gender	-0.113 (0.084)	-0.016 (0.064)	-0.151 (0.091) *	-0.015 (0.067)	-0.073 (0.132)	-0.014 (0.113)	-0.001 (0.142)	-0.038 (0.112)
Corporate Governance Concern#Diversity: Age	0.109 (0.093)	-0.022 (0.072)	0.046 (0.103)	-0.157 (0.072) **	-0.039 (0.147)	-0.195 (0.123)	-0.103 (0.152)	-0.150 (0.120)
Corporate Governance Concern#Diversity: Tenure	0.041 (0.075)	-0.070 (0.054)	-0.083 (0.089)	-0.071 (0.063)	0.131 (0.117)	-0.139 (0.095)	0.102 (0.124)	-0.064 (0.104)
Corporate Governance Concern#Diversity: Nationality	-0.054 (0.077)	-0.046 (0.054)	0.006 (0.077)	0.024 (0.054)	-0.041 (0.106)	0.072 (0.086)	0.065 (0.110)	0.126 (0.082)
Corporate Governance Concern#Diversity: Network Size	0.171 (0.117)	0.106 (0.083)	0.204 (0.126)	0.197 (0.087) **	0.126 (0.195)	0.158 (0.146)	0.195 (0.208)	0.342 (0.142) **
Corporate Governance Concern#Diversity: Board Independence	0.088 (0.065)	0.102 (0.051) **	-0.033 (0.067)	0.070 (0.050)	-0.067 (0.100)	-0.030 (0.084)	-0.112 (0.104)	-0.029 (0.080)
Corporate Governance Concern#Diversity: Number of Qualifications	0.022 (0.095)	-0.015 (0.074)	0.026 (0.105)	0.032 (0.077)	0.212 (0.147)	0.088 (0.128)	0.211 (0.164)	0.102 (0.127)
Corporate Governance Concern#Diversity: Ethnicity			0.108 (0.073)	-0.044 (0.051)			0.046 (0.110)	-0.158 (0.082) *
Corporate Governance Concern#Diversity: Attendance			-0.125 (0.214)	0.034 (0.159)			0.621 (0.349) *	0.281 (0.265)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,501	28,769	16,449	16,062	13,823	13,461	8,448	8,247
R ²	0.475	0.362	0.519	0.469	0.496	0.370	0.537	0.456
Adjusted R ²	0.471		0.511		0.487		0.522	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1-2 and 5-6 report results from nine board diversity measures previously used as control variables and Columns 3-4 and 7-8 also include the additional board diversity measures ethnicity and attendance. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; # denotes an interaction effect of the variable on the left and on the right of #. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

diverse boards most effects are only significant at the 10% level and for tenure the effects are not significant for the fixed effects models in the matched sample. Moreover, there is also some evidence that age-diverse boards positively moderate Product strengths on long-term performance. However, this effect does not hold for the fixed effects models with the two extra diversity variables.

All five Social domains (Community, Human Rights, Employee Relations, Diversity, and Product) generally show insignificant moderating effects. This is partially as expected since Social standards are often upheld across all layers in society. It would therefore be surprising if some boards showed different effects on Human Rights concerns than other boards, for example. However, if having Social concerns is not dependent on the men and women in charge then why do some firms still have those concerns, especially since the results from Section 4.3 showed that the financial implications of having Social concerns have increased after the Paris Agreement? An explanation outside the scope of this study is that Social concerns were deemed unimportant to solve in the first decade and are not easily solved (as supported by the effects from the Paris Agreement). Social concerns are mostly solved through gradual long-term changes in a firm. Since there are only a few years in the sample after the Paris Agreement the effects may not have materialized yet.

Lastly, the Corporate Governance domain only shows a consistent (negative) moderating effect of Past directorships and strengths on long-term performance. Surprisingly, there is no moderating effect from a more independent-diverse board. In fact, there is no consistent moderating effect of board independence for any domain strength or concern. ESG performance of a firm is thus valued irrespective of who sets out the firms' future (e.g. more independent directors) but on why and how ESG performance creates value.

Table 20

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Short-term Financial Performance (ROA)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Environment Strength#Diversity: Current Directorships	1.332 (0.551) **	0.506 (0.407)	0.356 (0.461)	0.172 (0.323)	1.359 (0.681) **	0.384 (0.524)	0.431 (0.574)	0.094 (0.435)
Environment Strength#Diversity: Past Directorships	-1.959 (0.828) **	-0.915 (0.582)	-2.401 (0.696) ***	-1.076 (0.470) **	-1.482 (0.965)	-0.451 (0.731)	-2.252 (0.829) ***	-0.359 (0.619)
Environment Strength#Diversity: Gender	0.501 (0.686)	0.606 (0.524)	-0.625 (0.589)	0.448 (0.430)	0.357 (0.887)	-0.018 (0.674)	-0.448 (0.776)	-0.377 (0.568)
Environment Strength#Diversity: Age	1.272 (0.650) *	0.013 (0.520)	1.428 (0.550) ***	0.118 (0.410)	0.806 (0.860)	0.219 (0.669)	1.363 (0.695) *	0.102 (0.548)
Environment Strength#Diversity: Tenure	0.906 (0.564)	-0.208 (0.454)	0.417 (0.518)	-0.368 (0.432)	0.451 (0.738)	-0.228 (0.569)	-0.242 (0.686)	-0.732 (0.584)
Environment Strength#Diversity: Nationality	0.271 (0.444)	-0.145 (0.353)	-0.166 (0.376)	-0.147 (0.282)	0.980 (0.581) *	-0.269 (0.448)	-0.058 (0.490)	-0.230 (0.371)
Environment Strength#Diversity: Network Size	0.904 (0.745)	0.090 (0.630)	1.011 (0.651)	0.006 (0.491)	1.530 (1.043)	-0.792 (0.836)	1.094 (0.918)	-0.725 (0.683)
Environment Strength#Diversity: Board Independence	-0.869 (0.514) *	-0.197 (0.452)	-0.852 (0.409) **	-0.106 (0.354)	-1.483 (0.660) **	-0.305 (0.572)	-0.750 (0.521)	0.499 (0.463)
Environment Strength#Diversity: Number of Qualifications	-1.599 (0.707) **	0.142 (0.572)	-1.614 (0.604) ***	0.176 (0.446)	-1.420 (0.892)	0.326 (0.737)	-1.355 (0.772) *	0.163 (0.599)
Environment Strength#Diversity: Ethnicity			0.598 (0.416)	0.219 (0.316)			0.238 (0.524)	0.090 (0.411)
Environment Strength#Diversity: Attendance			-3.182 (1.898) *	-1.346 (1.102)			-3.355 (2.146)	-1.196 (1.464)
Environment Concern#Diversity: Current Directorships	1.809 (0.662) ***	-0.099 (0.595)	1.284 (0.623) **	0.116 (0.488)	1.171 (0.916)	-0.619 (0.838)	0.721 (0.843)	0.041 (0.697)
Environment Concern#Diversity: Past Directorships	3.509 (1.176) ***	1.152 (0.798)	2.438 (1.014) **	0.898 (0.691)	2.749 (1.576) *	0.774 (1.155)	2.140 (1.332)	0.620 (1.008)
Environment Concern#Diversity: Gender	-1.657 (0.872) *	-3.113 (0.756) ***	-3.062 (0.898) ***	-1.788 (0.646) ***	-2.156 (1.380)	-2.528 (1.130) **	-3.110 (1.259) **	-0.007 (0.959)
Environment Concern#Diversity: Age	0.699 (0.804)	0.651 (0.646)	-0.469 (0.874)	-0.444 (0.530)	-0.670 (1.047)	0.055 (0.944)	-1.906 (0.960) **	-0.618 (0.787)
Environment Concern#Diversity: Tenure	1.243 (0.553) **	0.322 (0.516)	1.434 (0.614) **	0.708 (0.458)	1.257 (0.857)	0.869 (0.746)	0.966 (0.970)	0.778 (0.685)
Environment Concern#Diversity: Nationality	-0.012 (0.619)	0.193 (0.541)	0.195 (0.578)	0.600 (0.447)	0.373 (0.831)	0.300 (0.762)	0.765 (0.720)	0.665 (0.626)
Environment Concern#Diversity: Network Size	3.454 (1.112) ***	1.705 (0.947) *	1.918 (1.110) *	0.919 (0.764)	3.085 (1.651) *	3.075 (1.381) **	1.306 (1.489)	1.222 (1.099)
Environment Concern#Diversity: Board Independence	0.127 (0.524)	0.393 (0.524)	-0.469 (0.496)	0.430 (0.420)	0.688 (0.764)	0.964 (0.767)	-0.543 (0.675)	0.510 (0.619)
Environment Concern#Diversity: Number of Qualifications	-2.197 (1.009) **	-1.350 (0.864)	-2.395 (0.941) **	-1.097 (0.726)	0.513 (1.302)	-1.272 (1.267)	-0.353 (1.163)	-0.978 (1.021)
Environment Concern#Diversity: Ethnicity			-0.514 (0.644)	0.338 (0.441)			-0.990 (0.851)	-0.963 (0.616)
Environment Concern#Diversity: Attendance			0.718 (2.106)	-2.207 (1.385)			-0.090 (3.350)	-4.114 (1.965) **
Community Strength#Diversity: Current Directorships	0.546 (0.938)	-0.464 (0.833)	-0.691 (0.822)	-0.005 (0.654)	1.051 (1.159)	-1.035 (0.989)	-1.084 (0.992)	-0.662 (0.806)
Community Strength#Diversity: Past Directorships	2.138 (1.099) *	1.795 (0.953) *	0.643 (1.048)	1.088 (0.823)	3.190 (1.383) **	2.033 (1.114) *	0.937 (1.274)	1.388 (1.003)
Community Strength#Diversity: Gender	-2.704 (1.245) **	-0.367 (1.074)	-1.485 (1.258)	-0.378 (0.912)	-2.139 (1.511)	-0.093 (1.276)	-2.247 (1.419)	-0.746 (1.143)
Community Strength#Diversity: Age	0.120 (1.184)	-0.096 (1.013)	0.415 (1.085)	-0.673 (0.803)	-0.111 (1.481)	-0.159 (1.305)	-1.416 (1.358)	-1.941 (1.094) *
Community Strength#Diversity: Tenure	0.161 (1.028)	0.245 (0.867)	1.017 (0.954)	0.172 (0.739)	0.189 (1.367)	-0.154 (1.085)	1.424 (1.226)	0.338 (0.970)
Community Strength#Diversity: Nationality	1.892 (0.934) **	0.661 (0.764)	1.116 (0.840)	0.412 (0.594)	1.410 (1.123)	0.191 (0.924)	0.626 (0.977)	-1.024 (0.756)
Community Strength#Diversity: Network Size	2.591 (1.389) *	2.344 (1.265) *	0.659 (1.295)	1.210 (1.007)	1.562 (1.852)	2.325 (1.651)	0.358 (1.735)	0.949 (1.371)
Community Strength#Diversity: Board Independence	0.749 (0.772)	1.471 (0.732) **	1.645 (0.695) **	0.491 (0.589)	1.262 (0.966)	2.116 (0.906) **	1.771 (0.891) **	0.601 (0.760)
Community Strength#Diversity: Number of Qualifications	-0.575 (1.376)	-0.398 (1.099)	-0.787 (1.450)	0.023 (0.961)	0.248 (1.542)	-0.092 (1.304)	-0.592 (1.711)	-0.739 (1.199)
Community Strength#Diversity: Ethnicity			0.230 (0.816)	0.499 (0.595)			1.421 (1.016)	1.388 (0.735) *
Community Strength#Diversity: Attendance			3.859 (2.639)	-2.006 (1.962)			3.171 (3.415)	-0.455 (2.413)
Community Concern#Diversity: Current Directorships	-0.779 (1.403)	-0.414 (1.263)	-1.134 (1.407)	-0.744 (1.042)	-1.123 (2.087)	-1.373 (1.819)	-1.900 (1.909)	-1.593 (1.487)
Community Concern#Diversity: Past Directorships	0.834 (1.298)	1.672 (1.431)	2.265 (1.686)	0.754 (1.369)	1.092 (2.000)	0.559 (1.997)	2.638 (2.132)	1.792 (1.840)
Community Concern#Diversity: Gender	-3.630 (1.648) **	0.529 (1.441)	-2.210 (1.959)	0.297 (1.278)	-1.123 (2.639)	-0.145 (2.193)	-0.980 (2.794)	-2.429 (1.887)
Community Concern#Diversity: Age	-1.470 (1.738)	-1.525 (1.474)	-2.141 (1.898)	0.052 (1.221)	2.808 (2.293)	-0.657 (2.250)	2.207 (2.141)	1.381 (1.845)
Community Concern#Diversity: Tenure	-2.895 (1.111) ***	-0.727 (1.166)	-3.342 (1.351) **	-1.703 (1.005) *	-3.442 (2.003) *	-0.454 (1.855)	-3.842 (1.943) **	-0.856 (1.585)
Community Concern#Diversity: Nationality	4.011 (1.518) ***	-1.354 (1.212)	4.534 (1.443) ***	-0.569 (0.974)	4.663 (2.001) **	-0.898 (1.699)	2.764 (1.804)	-2.085 (1.371)
Community Concern#Diversity: Network Size	-0.763 (1.950)	-0.371 (1.831)	1.563 (2.348)	-0.132 (1.613)	3.232 (3.352)	1.309 (2.864)	5.274 (3.492)	1.663 (2.512)
Community Concern#Diversity: Board Independence	-0.102 (1.118)	-0.129 (1.055)	1.602 (1.116)	-0.078 (0.893)	-1.129 (1.665)	1.068 (1.565)	2.730 (1.574) *	1.928 (1.318)
Community Concern#Diversity: Number of Qualifications	3.342 (2.170)	4.182 (1.786) **	3.824 (2.109) *	3.644 (1.448) **	0.797 (2.712)	4.793 (2.506) *	1.531 (2.601)	3.972 (2.007) **
Community Concern#Diversity: Ethnicity			-1.283 (1.259)	0.822 (0.932)			-2.585 (1.765)	-0.883 (1.362)
Community Concern#Diversity: Attendance			-5.093 (4.712)	-3.880 (3.002)			-1.045 (6.210)	-2.633 (4.185)
Human Rights Strength#Diversity: Current Directorships	-2.054 (2.502)	-3.543 (1.410) **	0.072 (2.682)	-4.957 (1.212) ***	-3.854 (3.821)	-3.333 (1.969) *	-3.124 (4.806)	-10.053 (1.899) ***
Human Rights Strength#Diversity: Past Directorships	3.017 (4.842)	1.789 (1.883)	1.755 (4.229)	3.306 (1.900) *	4.827 (6.346)	-5.316 (2.297) **	0.989 (4.572)	0.654 (2.505)
Human Rights Strength#Diversity: Gender	0.160 (3.039)	-2.271 (1.703)	-4.321 (3.516)	-4.445 (1.563) ***	1.250 (3.853)	-3.915 (2.092) *	1.968 (3.902)	-1.086 (2.031)
Human Rights Strength#Diversity: Age	7.131 (3.950) *	3.525 (1.675) **	5.010 (4.986)	4.272 (1.377) ***	6.763 (4.490)	-1.117 (2.344)	2.638 (5.236)	-3.367 (2.077)
Human Rights Strength#Diversity: Tenure	1.115 (2.162)	-1.605 (1.419)	5.146 (3.106) *	0.786 (1.441)	2.652 (2.757)	0.436 (1.887)	6.795 (4.371)	3.977 (1.973) **
Human Rights Strength#Diversity: Nationality	0.260 (2.046)	0.292 (2.268)	3.144 (2.438)	-0.359 (1.100)	1.847 (2.814)	2.856 (1.640) *	6.091 (3.155) *	3.803 (1.518) **
Human Rights Strength#Diversity: Network Size	3.776 (3.433)	0.066 (2.287)	7.709 (4.412) *	5.653 (2.029) ***	0.493 (4.461)	-3.204 (3.135)	5.428 (5.920)	6.442 (3.157) **
Human Rights Strength#Diversity: Board Independence	-0.662 (4.136)	-1.379 (2.014)	-0.967 (4.861)	-1.318 (1.634)	3.407 (4.009)	1.657 (2.478)	5.376 (3.750)	2.962 (2.147)
Human Rights Strength#Diversity: Number of Qualifications	4.506 (3.728)	2.339 (1.883)	3.995 (4.064)	-0.784 (1.729)	4.698 (4.712)	1.985 (2.406)	6.985 (4.907)	1.651 (2.366)
Human Rights Strength#Diversity: Ethnicity			6.464 (2.527) **	6.119 (1.283) ***			4.147 (3.013)	6.808 (1.775) ***
Human Rights Strength#Diversity: Attendance			-6.370 (6.407)	-3.883 (4.493)			-9.508 (11.310)	-11.482 (7.518)

(Continued)

Table 20 (Continued)

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Short-term Financial Performance (ROA)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Human Rights Concern#Diversity: Current Directorships	0.929 (1.630)	-0.592 (1.334)	1.993 (1.557)	0.994 (1.106)	-0.146 (2.370)	0.855 (2.007)	-0.180 (2.223)	3.398 (1.654) **
Human Rights Concern#Diversity: Past Directorships	2.484 (2.291)	-0.928 (1.733)	2.340 (2.382)	-2.231 (1.492)	6.356 (3.236) *	-0.159 (2.677)	7.450 (2.858) ***	2.465 (2.272)
Human Rights Concern#Diversity: Gender	-3.796 (1.920) **	-0.216 (1.568)	-2.637 (1.975)	-0.058 (1.400)	-3.084 (2.925)	5.752 (2.584) **	-3.976 (2.670)	3.465 (2.353)
Human Rights Concern#Diversity: Age	4.266 (1.842) **	-0.548 (1.576)	3.126 (1.724) *	-1.030 (1.301)	2.717 (2.506)	-3.132 (2.308)	2.433 (2.243)	-3.918 (1.913) **
Human Rights Concern#Diversity: Tenure	2.617 (1.790)	0.803 (1.342)	2.058 (1.564)	0.501 (1.208)	0.569 (1.971)	0.498 (2.155)	-1.703 (2.188)	-1.430 (1.832)
Human Rights Concern#Diversity: Nationality	-1.020 (1.564)	0.672 (1.237)	-1.462 (1.623)	0.221 (1.024)	-1.912 (2.231)	1.895 (1.726)	-1.640 (2.155)	-0.375 (1.389)
Human Rights Concern#Diversity: Network Size	0.288 (2.426)	-1.246 (1.988)	0.634 (2.224)	0.852 (1.665)	2.078 (3.765)	-0.364 (3.042)	-1.452 (3.129)	0.402 (2.496)
Human Rights Concern#Diversity: Board Independence	-2.992 (1.346) **	-0.734 (1.229)	-1.892 (1.230)	-0.919 (1.015)	-3.696 (2.044) *	2.299 (1.872)	-2.203 (1.727)	1.523 (1.526)
Human Rights Concern#Diversity: Number of Qualifications	-0.056 (2.421)	2.496 (1.883)	-0.334 (2.304)	0.224 (1.603)	-2.670 (3.427)	-2.669 (2.810)	-2.284 (2.919)	-2.156 (2.328)
Human Rights Concern#Diversity: Ethnicity			-1.536 (1.826)	-0.271 (1.071)			-0.364 (2.267)	-0.892 (1.495)
Human Rights Concern#Diversity: Attendance			-3.663 (6.523)	-3.505 (3.043)			-12.483 (11.228)	-11.045 (4.450) **
Employee Relations Strength#Diversity: Current Directorships	0.112 (0.422)	-0.141 (0.325)	0.439 (0.360)	0.307 (0.262)	-0.168 (0.557)	0.323 (0.417)	0.612 (0.467)	0.661 (0.351) *
Employee Relations Strength#Diversity: Past Directorships	-0.852 (0.590)	-0.194 (0.418)	-0.903 (0.535) *	-0.362 (0.342)	-0.058 (0.733)	-0.679 (0.513)	-1.053 (0.671)	-0.776 (0.438) *
Employee Relations Strength#Diversity: Gender	-0.025 (0.508)	0.157 (0.398)	-0.101 (0.482)	0.212 (0.331)	-0.459 (0.619)	-0.164 (0.497)	-0.635 (0.595)	0.296 (0.423)
Employee Relations Strength#Diversity: Age	0.062 (0.548)	0.561 (0.420)	-0.411 (0.467)	0.320 (0.340)	0.246 (0.703)	0.569 (0.531)	-0.506 (0.615)	-0.023 (0.447)
Employee Relations Strength#Diversity: Tenure	-1.120 (0.427) ***	-0.011 (0.327)	-0.445 (0.430)	-0.129 (0.319)	-0.520 (0.543)	0.342 (0.406)	-0.460 (0.615)	0.095 (0.426)
Employee Relations Strength#Diversity: Nationality	0.245 (0.368)	0.038 (0.286)	0.169 (0.326)	0.145 (0.232)	-0.177 (0.508)	-0.343 (0.374)	0.606 (0.458)	0.066 (0.316)
Employee Relations Strength#Diversity: Network Size	-0.503 (0.613)	-0.011 (0.503)	-1.106 (0.583) *	-0.601 (0.404)	0.055 (0.807)	0.323 (0.664)	-0.034 (0.836)	-0.690 (0.565)
Employee Relations Strength#Diversity: Board Independence	0.296 (0.392)	0.050 (0.345)	0.717 (0.335) **	-0.087 (0.268)	-0.573 (0.493)	-0.025 (0.435)	0.138 (0.434)	-0.202 (0.350)
Employee Relations Strength#Diversity: Number of Qualifications	0.277 (0.619)	0.030 (0.476)	1.319 (0.560) **	0.550 (0.387)	0.045 (0.829)	0.130 (0.630)	1.675 (0.773) **	0.696 (0.533)
Employee Relations Strength#Diversity: Ethnicity			0.200 (0.345)	0.036 (0.246)			0.411 (0.480)	-0.192 (0.335)
Employee Relations Strength#Diversity: Attendance			-0.079 (1.338)	1.124 (0.927)			-1.067 (1.567)	1.749 (1.151)
Employee Relations Concern#Diversity: Current Directorships	0.675 (0.792)	0.216 (0.477)	-1.256 (0.619) **	-0.449 (0.439)	2.046 (1.098) *	1.820 (0.781) **	1.949 (0.854) **	0.701 (0.673)
Employee Relations Concern#Diversity: Past Directorships	-0.970 (0.816)	-0.644 (0.541)	-0.174 (0.809)	0.736 (0.525)	-0.599 (1.235)	-0.768 (0.922)	-1.147 (1.082)	0.332 (0.840)
Employee Relations Concern#Diversity: Gender	-1.496 (0.799) *	0.066 (0.547)	1.344 (0.768) *	0.441 (0.522)	-3.398 (1.321) **	0.772 (0.933)	0.834 (1.149)	2.159 (0.854) **
Employee Relations Concern#Diversity: Age	-0.649 (0.882)	-0.610 (0.589)	-1.561 (0.772) **	-0.694 (0.525)	-0.442 (1.409)	-0.587 (0.995)	-1.034 (1.075)	-1.438 (0.854) *
Employee Relations Concern#Diversity: Tenure	0.214 (0.685)	0.417 (0.455)	-0.597 (0.684)	-0.281 (0.462)	-1.819 (1.016) *	-0.673 (0.738)	-0.173 (0.944)	-1.147 (0.719)
Employee Relations Concern#Diversity: Nationality	0.111 (0.707)	-0.669 (0.466)	0.447 (0.580)	-0.359 (0.422)	-1.005 (1.002)	-0.556 (0.701)	0.190 (0.765)	0.147 (0.607)
Employee Relations Concern#Diversity: Network Size	-1.523 (1.063)	-1.730 (0.702) **	0.466 (0.884)	-0.981 (0.645)	-1.519 (1.786)	-1.415 (1.202)	1.556 (1.370)	-0.011 (1.045)
Employee Relations Concern#Diversity: Board Independence	-2.006 (0.577) ***	-0.495 (0.424)	0.020 (0.501)	-0.068 (0.377)	-1.995 (0.851) **	-0.144 (0.690)	0.078 (0.687)	0.276 (0.586)
Employee Relations Concern#Diversity: Number of Qualifications	0.881 (0.967)	0.249 (0.654)	-0.046 (0.879)	-0.860 (0.614)	-0.663 (1.456)	-0.224 (1.141)	-1.437 (1.299)	-0.495 (0.996)
Employee Relations Concern#Diversity: Ethnicity			-0.542 (0.558)	-0.236 (0.386)			-0.586 (0.797)	-1.175 (0.610) *
Employee Relations Concern#Diversity: Attendance			-0.008 (1.634)	1.469 (1.180)			-2.243 (2.756)	0.989 (1.891)
Diversity Strength#Diversity: Current Directorships	-4.081 (0.785) ***	-0.274 (0.602)	-2.818 (0.668) ***	-0.141 (0.469)	-5.221 (1.005) ***	-0.523 (0.764)	-3.302 (0.850) ***	-0.134 (0.611)
Diversity Strength#Diversity: Past Directorships	-2.834 (1.154) **	-0.399 (0.799)	-1.505 (1.051)	0.168 (0.634)	-3.134 (1.378) **	-0.628 (0.941)	-1.405 (1.270)	-0.189 (0.769)
Diversity Strength#Diversity: Gender	2.212 (1.011) **	0.336 (0.767)	2.303 (0.908) **	0.205 (0.613)	0.822 (1.261)	-0.134 (0.987)	1.879 (1.135) *	-0.146 (0.813)
Diversity Strength#Diversity: Age	0.486 (0.946)	-0.236 (0.757)	0.903 (0.831)	0.255 (0.591)	0.923 (1.157)	0.501 (0.947)	1.457 (1.040)	1.289 (0.771) *
Diversity Strength#Diversity: Tenure	1.077 (0.858)	-0.071 (0.650)	0.337 (0.716)	0.258 (0.543)	-0.165 (1.050)	0.035 (0.839)	0.341 (0.934)	0.552 (0.723)
Diversity Strength#Diversity: Nationality	1.421 (0.690) **	0.678 (0.544)	1.258 (0.575) **	0.519 (0.418)	1.723 (0.849) **	1.088 (0.685)	1.301 (0.700) *	0.932 (0.545) *
Diversity Strength#Diversity: Network Size	-2.866 (1.093) ***	-0.793 (0.864)	-1.916 (0.937) **	-0.432 (0.678)	-2.781 (1.467) *	-0.514 (1.117)	-1.019 (1.304)	-0.138 (0.914)
Diversity Strength#Diversity: Board Independence	-0.595 (0.633)	-0.299 (0.553)	-0.757 (0.538)	0.238 (0.434)	-0.158 (0.798)	-0.436 (0.693)	-0.594 (0.675)	-0.047 (0.566)
Diversity Strength#Diversity: Number of Qualifications	-4.849 (1.117) ***	-0.104 (0.861)	-2.894 (1.089) ***	-0.184 (0.689)	-3.442 (1.364) **	0.030 (1.079)	-3.739 (1.321) ***	-0.980 (0.876)
Diversity Strength#Diversity: Ethnicity			-0.468 (0.622)	-0.304 (0.431)			-0.842 (0.795)	-0.308 (0.554)
Diversity Strength#Diversity: Attendance			0.699 (2.065)	2.543 (1.365) *			0.645 (2.793)	1.892 (1.775)
Diversity Concern#Diversity: Current Directorships	-1.620 (0.909) *	-0.260 (0.546)	-0.019 (0.875)	0.163 (0.554)	-0.573 (1.480)	0.509 (0.933)	0.497 (1.353)	0.191 (0.902)
Diversity Concern#Diversity: Past Directorships	0.942 (0.955)	-0.800 (0.570)	-0.939 (0.962)	-0.161 (0.594)	-0.925 (1.566)	-0.298 (0.975)	-0.687 (1.440)	0.193 (0.977)
Diversity Concern#Diversity: Gender	-0.910 (1.011)	-0.391 (0.642)	-0.921 (0.929)	-0.422 (0.621)	1.051 (1.611)	-1.342 (1.039)	-3.113 (1.419) **	-1.376 (0.976)
Diversity Concern#Diversity: Age	0.774 (1.051)	0.373 (0.662)	-1.418 (1.021)	-0.456 (0.649)	-0.297 (1.818)	-0.160 (1.151)	-1.229 (1.557)	-1.433 (1.084)
Diversity Concern#Diversity: Tenure	-2.240 (0.781) ***	-0.266 (0.473)	-1.704 (0.883) *	-0.159 (0.555)	-0.360 (1.305)	0.161 (0.793)	0.060 (1.387)	0.721 (0.931)
Diversity Concern#Diversity: Nationality	0.969 (0.953)	-0.035 (0.546)	0.701 (0.847)	0.516 (0.540)	1.273 (1.571)	0.650 (0.897)	0.671 (1.255)	1.027 (0.845)
Diversity Concern#Diversity: Network Size	-2.364 (1.315) *	-0.653 (0.782)	-3.582 (1.196) ***	-2.098 (0.798) ***	-0.705 (2.363)	-0.303 (1.401)	-1.430 (1.897)	-2.128 (1.383)
Diversity Concern#Diversity: Board Independence	-0.546 (0.740)	-0.464 (0.496)	0.401 (0.703)	-0.012 (0.473)	-1.569 (1.229)	-0.497 (0.853)	-1.311 (1.038)	-0.155 (0.767)
Diversity Concern#Diversity: Number of Qualifications	-2.796 (1.099) **	-0.116 (0.688)	0.622 (1.193)	1.377 (0.718) *	-2.475 (1.986)	-1.308 (1.247)	-0.924 (1.997)	0.046 (1.204)
Diversity Concern#Diversity: Ethnicity			-0.461 (0.737)	-0.961 (0.470) **			0.810 (1.116)	-0.135 (0.755)
Diversity Concern#Diversity: Attendance			3.574 (2.372)	1.148 (1.568)			-1.789 (3.750)	0.354 (2.616)

(Continued)

Table 20 (Continued)

Moderation effects of Diverse Boards on ESG Performance per Domain Strength & Concern and Short-term Financial Performance (ROA)

Independent Variable	Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Product Strength#Diversity: Current Directorships	-1.219 (1.314)	-0.377 (0.801)	-1.345 (1.027)	-0.582 (0.706)	-0.569 (1.711)	-1.056 (1.013)	-1.638 (1.331)	-0.264 (0.936)
Product Strength#Diversity: Past Directorships	1.864 (1.318)	0.778 (0.940)	2.303 (1.198) *	0.687 (0.868)	2.788 (1.636) *	0.963 (1.132)	3.227 (1.554) **	0.266 (1.106)
Product Strength#Diversity: Gender	-0.296 (1.432)	0.158 (0.944)	0.517 (1.237)	0.683 (0.875)	-0.540 (1.793)	0.682 (1.173)	0.947 (1.586)	0.692 (1.134)
Product Strength#Diversity: Age	3.582 (1.627) **	-0.004 (1.058)	0.402 (1.246)	-0.001 (0.897)	2.978 (2.149)	-0.675 (1.313)	-0.103 (1.655)	0.259 (1.174)
Product Strength#Diversity: Tenure	2.220 (1.131) *	-0.407 (0.752)	0.714 (1.050)	0.139 (0.789)	1.747 (1.431)	-0.811 (0.899)	-0.658 (1.288)	-1.561 (0.998)
Product Strength#Diversity: Nationality	1.720 (1.207)	0.468 (0.732)	3.286 (0.917) ***	0.166 (0.634)	2.467 (1.638)	0.415 (0.928)	3.684 (1.186) ***	0.431 (0.841)
Product Strength#Diversity: Network Size	0.415 (1.856)	-0.342 (1.195)	0.301 (1.715)	-0.658 (1.056)	-0.659 (2.435)	-1.243 (1.483)	-0.455 (2.327)	-1.324 (1.403)
Product Strength#Diversity: Board Independence	2.812 (1.148) **	-0.083 (0.826)	0.742 (1.112)	-0.188 (0.821)	4.087 (1.416) ***	1.335 (0.989)	1.425 (1.404)	-0.159 (1.073)
Product Strength#Diversity: Number of Qualifications	-0.486 (1.793)	-0.797 (1.074)	-2.341 (1.627)	-0.005 (0.958)	0.942 (2.241)	-1.203 (1.344)	-2.095 (2.132)	-0.362 (1.254)
Product Strength#Diversity: Ethnicity			-1.468 (0.870) *	-0.595 (0.640)			-1.392 (1.114)	-1.302 (0.820)
Product Strength#Diversity: Attendance			4.826 (3.526)	-1.297 (2.231)			5.417 (4.303)	-1.661 (2.727)
Product Concern#Diversity: Current Directorships	1.442 (0.750) *	0.546 (0.630)	1.452 (0.689) **	0.646 (0.516)	2.417 (1.061) **	1.460 (0.906)	1.719 (0.962) *	0.788 (0.755)
Product Concern#Diversity: Past Directorships	0.452 (1.054)	0.395 (0.804)	1.096 (1.035)	0.406 (0.686)	0.113 (1.509)	0.046 (1.178)	-0.083 (1.308)	0.417 (0.969)
Product Concern#Diversity: Gender	1.090 (0.904)	0.310 (0.767)	0.159 (0.876)	-0.419 (0.677)	2.114 (1.397)	-0.103 (1.126)	0.708 (1.266)	-0.351 (0.969)
Product Concern#Diversity: Age	-1.439 (0.978)	-0.373 (0.747)	0.044 (0.896)	0.111 (0.607)	1.729 (1.397)	1.024 (1.161)	1.033 (1.159)	1.024 (0.960)
Product Concern#Diversity: Tenure	-1.349 (0.763) *	0.072 (0.587)	-0.325 (0.759)	0.382 (0.532)	-0.126 (1.205)	0.013 (0.886)	-0.335 (0.948)	0.751 (0.795)
Product Concern#Diversity: Nationality	-2.991 (0.727) ***	-0.193 (0.572)	-2.557 (0.637) ***	-0.005 (0.467)	-3.841 (1.006) ***	-0.445 (0.791)	-2.545 (0.805) ***	0.018 (0.646)
Product Concern#Diversity: Network Size	1.162 (1.086)	-0.456 (0.967)	0.546 (1.047)	-0.986 (0.804)	-0.690 (1.803)	-0.661 (1.477)	-1.249 (1.635)	-0.830 (1.222)
Product Concern#Diversity: Board Independence	-1.386 (0.623) **	-0.729 (0.571)	1.292 (0.562) **	0.969 (0.461) **	-0.906 (0.910)	-1.394 (0.832) *	1.595 (0.783) **	1.187 (0.669) *
Product Concern#Diversity: Number of Qualifications	2.794 (1.028) ***	0.490 (0.937)	2.191 (0.981) **	0.500 (0.790)	2.381 (1.475)	-0.617 (1.407)	1.291 (1.265)	0.046 (1.161)
Product Concern#Diversity: Ethnicity			0.125 (0.667)	-0.607 (0.461)			0.839 (0.905)	-0.003 (0.644)
Product Concern#Diversity: Attendance			0.272 (2.137)	0.556 (1.435)			2.394 (2.950)	1.672 (1.996)
Corporate Governance Strength#Diversity: Current Directorships	2.801 (1.177) **	1.817 (0.740) **	1.072 (1.051)	1.585 (0.738) **	3.315 (1.563) **	0.927 (1.029)	1.412 (1.452)	1.621 (1.033)
Corporate Governance Strength#Diversity: Past Directorships	-2.351 (1.095) **	-1.431 (0.718) **	0.503 (1.350)	-1.515 (0.810) *	-1.895 (1.450)	0.426 (1.022)	2.691 (1.488) *	-0.677 (1.104)
Corporate Governance Strength#Diversity: Gender	-2.797 (1.201) **	-0.184 (0.780)	-1.445 (1.251)	-0.438 (0.811)	0.577 (1.729)	0.197 (1.121)	-0.306 (1.665)	-1.174 (1.181)
Corporate Governance Strength#Diversity: Age	-0.408 (1.326)	1.577 (0.880) *	-0.086 (1.347)	1.864 (0.856) **	-1.990 (1.920)	0.253 (1.266)	0.570 (1.723)	1.956 (1.218)
Corporate Governance Strength#Diversity: Tenure	-1.765 (0.998) *	-0.610 (0.648)	0.248 (1.157)	-0.480 (0.804)	-1.924 (1.442)	-0.592 (0.876)	-1.097 (1.642)	-1.507 (1.097)
Corporate Governance Strength#Diversity: Nationality	2.098 (1.058) **	-0.938 (0.681)	-0.001 (0.953)	-0.506 (0.638)	2.546 (1.487) *	-2.090 (0.925) **	-0.862 (1.272)	-0.820 (0.873)
Corporate Governance Strength#Diversity: Network Size	1.673 (1.510)	-1.429 (0.983)	-0.036 (1.488)	-0.858 (1.031)	1.904 (2.135)	-0.640 (1.470)	1.990 (2.041)	-1.891 (1.529)
Corporate Governance Strength#Diversity: Board Independence	-1.627 (0.886) *	-0.064 (0.633)	-0.558 (0.890)	-0.041 (0.622)	-0.711 (1.166)	-0.748 (0.890)	-0.648 (1.112)	-0.479 (0.866)
Corporate Governance Strength#Diversity: Number of Qualifications	1.569 (1.359)	0.465 (0.924)	1.880 (1.437)	1.243 (0.936)	4.014 (1.894) **	0.256 (1.322)	3.493 (1.917) *	3.236 (1.302) **
Corporate Governance Strength#Diversity: Ethnicity			0.302 (1.003)	-0.503 (0.637)			0.383 (1.253)	-0.148 (0.873)
Corporate Governance Strength#Diversity: Attendance			-3.177 (3.169)	2.808 (2.003)			-5.602 (4.331)	3.845 (2.640)
Corporate Governance Concern#Diversity: Current Directorships	0.370 (0.830)	0.028 (0.510)	-0.147 (0.717)	-0.150 (0.466)	0.606 (1.297)	-0.347 (0.836)	-0.235 (1.038)	-0.425 (0.735)
Corporate Governance Concern#Diversity: Past Directorships	0.455 (1.020)	0.161 (0.592)	0.696 (0.937)	-0.281 (0.563)	0.754 (1.541)	-0.685 (1.034)	1.289 (1.350)	-1.731 (0.934) *
Corporate Governance Concern#Diversity: Gender	-3.729 (0.929) ***	0.031 (0.583)	-3.721 (0.849) ***	-0.032 (0.545)	-4.482 (1.557) ***	-1.041 (0.999)	-3.622 (1.313) ***	-1.813 (0.900) **
Corporate Governance Concern#Diversity: Age	0.582 (1.030)	0.028 (0.647)	0.806 (0.893)	0.067 (0.588)	0.030 (1.725)	-0.835 (1.098)	0.247 (1.284)	0.101 (0.958)
Corporate Governance Concern#Diversity: Tenure	-0.092 (0.853)	-0.854 (0.482) *	0.968 (0.820)	-0.371 (0.511)	0.349 (1.460)	-1.294 (0.846)	0.948 (1.123)	-0.519 (0.817)
Corporate Governance Concern#Diversity: Nationality	-0.827 (0.829)	0.145 (0.493)	-1.843 (0.679) ***	-0.371 (0.439)	-0.406 (1.193)	-0.816 (0.775)	-0.834 (0.932)	-0.770 (0.657)
Corporate Governance Concern#Diversity: Network Size	0.948 (1.217)	1.365 (0.755) *	2.848 (1.066) ***	1.691 (0.709) **	1.319 (2.104)	0.793 (1.319)	2.403 (1.679)	1.669 (1.160)
Corporate Governance Concern#Diversity: Board Independence	0.638 (0.689)	0.072 (0.460)	-1.400 (0.602) **	-0.432 (0.409)	1.616 (1.027)	-0.088 (0.771)	-1.010 (0.843)	-0.480 (0.652)
Corporate Governance Concern#Diversity: Number of Qualifications	2.415 (1.078) **	-0.308 (0.667)	1.600 (1.052)	0.474 (0.627)	1.619 (1.848)	0.600 (1.180)	4.134 (1.624) **	1.625 (1.029)
Corporate Governance Concern#Diversity: Ethnicity			-0.365 (0.653)	-0.596 (0.416)			-0.705 (0.927)	0.157 (0.646)
Corporate Governance Concern#Diversity: Attendance			-1.590 (2.266)	-0.708 (1.299)			2.702 (3.692)	1.842 (2.040)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	29,457	29,443	16,425	16,418	13,801	13,793	8,450	8,445
R ²	0.343	0.307	0.292	0.428	0.356	0.247	0.326	0.387
Adjusted R ²	0.338		0.280		0.344		0.304	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Columns 1-4 report the results over the unmatched sample and Columns 5-8 over the matched sample. Columns 1-2 and 5-6 report results from nine board diversity measures previously used as control variables and Columns 3-4 and 7-8 also include the additional board diversity measures ethnicity and attendance. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects.

All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; # denotes an interaction effect of the variable on the left and on the right of #. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Part V: Conclusion

ESG performance is becoming increasingly important in practice and academic literature should follow this direction. The literature on ESG performance has predominantly debated if there even is an effect of ESG performance on financial performance. This paper provides evidence that ESG performance indeed has a significant positive effect on short- (ROA) and long-term (Tobin's Q) financial performance. More importantly, only constructing an overall ESG measure with equal weights, as most studies do, leads to inaccurate conclusions. The detailed domain analysis shows that effects are inconsistent between domains across financial performance measure, channel, time, and boards. Therefore, future studies should refrain from using an overall ESG measure constructed with equal weights and analyze ESG performance at least at the domain level. However, overall ESG measures can prove to be useful, provided that the weighting mechanism behind the measure accurately represents society's perceptions of ESG performance.

Furthermore, future studies should also focus on how exactly ESG performance creates value. The analyzed channels (industry-adjusted sales growth and labor productivity growth) indeed mediate the effect of ESG performance on financial performance, although found significant mediation effects are only partial and specific to a few ESG domains. Against expectation, Environmental strengths and concerns do not lead to more or less demand or labor productivity. Moreover, the Human Rights domain shows that there are sizable negative channels to be identified. This results in many interesting avenues for future research. Future research should also focus on why some ESG domains do not create extra demand and labor productivity and which other channels do create or destroy value (such as more labor costs, less overhead costs, less employee turnover, etc.).

ESG performance is also a very dynamic measure that is often overlooked by academics and practitioners. The results from the Difference-in-Difference approach around the Paris Climate Agreement are very different from those around the latest economic crisis (see Appendix D). Partially, this is due to the very different natures of both exogenous shocks, but it also indicates that perceptions on ESG performance are changing. Against expectation, in the Environment domain only strengths (but not concerns) present significant differences on short- and long-term performance surrounding the Paris Agreement. This is particularly interesting since concerns from other domains do present significant differences after the Paris Agreement. This raises the question why Environmental concerns do not lead to a revaluation, especially since they are the most targeted domain of the Paris Agreement. Moreover, the effects from the current ongoing COVID-19 pandemic will be an interesting avenue for future research as governments are placing conditions on state aid based on environmental and social objectives.

Finally, the results also underline the important role of the board of directors. The results show that female directors are especially beneficial in minimizing detrimental effects of Environmental concerns. It is an indication that ESG performance can be an objective set by shareholders. Other board

diversity measures also showed some interesting effects, though not all are consistent over all model specifications. The results indicate that age-diverse boards could result in more diverse or effective ways to capture (monetary) benefits from ESG Strengths. The question arises why age-diverse boards are able to do so, since it is not through experience (current & past directorships, tenure), resources (network size, number of qualifications) or cultural background (Nationality, Ethnicity). Another interesting avenue would be to analyze how the perceptions/beliefs of directors and management influence ESG performance. A potentially interesting method would be to construct Latent variables with the help of Structural Equations modelling (SEM).

Above all, future studies should recognize the intricacy of overall ESG performance. ESG performance is not nearly as easy to construct and interpret as other, more straightforward economic measures, such as profitability. For the reasons presented in this paper, researchers of ESG performance would do well to take this multifaceted and complex nature of the ESG measure into consideration and develop their analyses accordingly.

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Appendix A: ESG variables

Table 1 Descriptions of underlying ESG Variables from MSCI

<i>ESG domain:</i>	<i>Strengths</i>	<i>Concerns</i>		
	<i>Description</i>	<i>Description</i>		
Environment	ENV_str_A	Environmental opportunities :clean tech	ENV_con_A	Hazardous Waste
	ENV_str_B	Waste managment: toxic emmisions and waste	ENV_con_B	Regulatory Problems
	ENV_str_C	Waste managment: packaging material & waste	ENV_con_C	Ozone depleting chemicals
	ENV_str_D	Climate change: carbon emmissions	ENV_con_D	Toxic emission and waste
	ENV_str_G	Environmental management system :certified by iso 14001	ENV_con_E	Agriculture chemicals
	ENV_str_H	Natural resource use: water stress	ENV_con_F	Energy and climate change
	ENV_str_I	Natural resource use: biodiversity & land use	ENV_con_G	Negative impact of product or services
	ENV_str_J	Natural resource use: raw material sourcing	ENV_con_H	Biodiversity and land use
	ENV_str_K	Natural resource use: financing environmental impact	ENV_con_I	Operational waste
	ENV_str_L	Environmental opportunities: green buildings	ENV_con_J	Supply chain management
	ENV_str_M	Environmental opportunities: renewable energy	ENV_con_K	Water stress
	ENV_str_N	Waste managment: electronic waste	ENV_con_X	Environment: other concerns
	ENV_str_O	Climate Change: Energy Efficiency		
	ENV_str_P	Climate change: product carbon footprint		
	ENV_str_Q	Climate change: insuring climate change risk		
	ENV_str_X	Environment: Other Strengths		
Community	COM_str_A	Charitable giving	COM_con_A	Investment controversies
	COM_str_B	Innovative Giving	COM_con_B	Community impact
	COM_str_C	Support for Housing	COM_con_D	Tax Disputes
	COM_str_D	Support for Education	COM_con_X	Community: Other concerns
	COM_str_F	Non-US charitable giving		
	COM_str_G	Volunteer programs		
	COM_str_H	Community engagement		
	COM_str_X	Community: Other Strengths		
Human Rights	HUM_str_D	Indigeous peoples relations strenght	HUM_con_C	Burma Concern
	HUM_str_G	Labor rights	HUM_con_D	Mexico Concern
	HUM_str_X	Human right policies & initiatives	HUM_con_F	Labor rights concern
			HUM_con_G	Indegenous peoples relations concerns
			HUM_con_H	Operations in Sudan
			HUM_con_J	Freedom of expression & censorship
		HUM_con_K	Human right violations	
		HUM_con_X	Human rights other concerns	

(Continued)

Table 1 (Continued)

Descriptions of underlying ESG Variables from MSCI

<i>ESG domain:</i>	Strengths		Concerns	
		<i>Description</i>		<i>Description</i>
Employee Relations	EMP_str_A	Union relations	EMP_con_A	Union relation concerns
	EMP_str_C	Cash profit sharing	EMP_con_B	Health & safety
	EMP_str_D	Employee involvement	EMP_con_C	Workforce reductions
	EMP_str_F	Retirement benefits	EMP_con_D	Retirement benefits
	EMP_str_G	Employee health & safety	EMP_con_F	Supply chain
	EMP_str_H	Supply chain labor standards	EMP_con_G	Child labor
	EMP_str_I	Compensation and benefits	EMP_con_H	Labor management relations
	EMP_str_J	Employee relations	EMP_con_X	Labor rights & supply chain other concerns
	EMP_str_K	Professional Development		
	EMP_str_L	Human capital development		
	EMP_str_M	Labor management		
	EMP_str_N	Controversial sourcing		
	EMP_str_X	Human capital other Strengths		
	Diversity	DIV_str_A	CEO is a woman or a member of a minority group	DIV_con_A
DIV_str_B		At least one woman in the executive management team	DIV_con_B	Non-representation
DIV_str_C		Board of directors gender diversity	DIV_con_C	Board of directors gender diversity
DIV_str_D		Work-Life benefits	DIV_con_D	Board of directors - minorities
DIV_str_E		Women and minority contracting	DIV_con_X	Diversity: other concerns
DIV_str_F		Employment of the disabled		
DIV_str_G		Gay and Lesbian Policies		
DIV_str_H		Employment of underrepresented groups		
DIV_str_X		Diversity: other Strengths		
Product	PRO_str_A	Product safety and quality	PRO_con_A	Product quality and safety
	PRO_str_B	R&D Innovation	PRO_con_D	Marketing & advertising
	PRO_str_C	Social opportunities acces to healthcare	PRO_con_E	Anticompetitive practices
	PRO_str_D	Social opportunities acces to finance	PRO_con_F	Customer relations
	PRO_str_E	Social opportunities acces to communication	PRO_con_G	Privacy & Data Security
	PRO_str_F	Social Opportunities Opportunities in Nutrition and Health	PRO_con_X	Product: other concerns
	PRO_str_G	Product Safety - Chemical Safety		
	PRO_str_H	Product Safety - Financial Product		
	PRO_str_I	Product Safety - Privacy and Data Security		
	PRO_str_J	Product Safety - Responsible Investment		
	PRO_str_K	Product Safety - Insuring Health and Demographic Risk		
	PRO_str_X	Product: other Strengths		
	Corporate Governance	CGOV_str_A	Limited Compensation	CGOV_con_B
CGOV_str_C		Ownership strenght	CGOV_con_F	Ownership concentration
CGOV_str_D		Transparency	CGOV_con_G	Accounting
CGOV_str_E		Political accountability	CGOV_con_H	Transparency
CGOV_str_F		Public Policy	CGOV_con_I	Political accountability
CGOV_str_G		Corruption & political instability	CGOV_con_J	Public Policy
CGOV_str_H		Financial system instability	CGOV_con_K	Governance structures
CGOV_str_X		Other strengths	CGOV_con_L	Controversial investments
			CGOV_con_M	Bribery & fraud
			CGOV_con_X	Governance other concerns

Variables in red are obtained from MSCI but excluded from analysis to mitigate colinearity problems (see Section 3.1.2).

Appendix B: Overall ESG and Sales growth

Table 1

(Factor) ESG Performance and Financial Performance (Tobin's Q) through Industry-Adjusted Sales Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Sales Growth</i>								
ESG	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.003)				
Factor ESG					0.001 (0.004)	-0.002 (0.004)	0.003 (0.004)	0.001 (0.005)
<i>Tobin's Q</i>								
Industry-Adjusted Sales Growth	0.048 (0.013) ***	0.013 (0.010)	0.074 (0.021) ***	0.028 (0.016) *	0.048 (0.013) ***	0.013 (0.010)	0.066 (0.020) ***	0.022 (0.015)
ESG	0.036 (0.003) ***	0.008 (0.002) ***	0.032 (0.004) ***	0.007 (0.003) **				
Factor ESG					0.080 (0.006) ***	0.019 (0.004) ***	0.063 (0.007) ***	0.015 (0.005) ***
Indirect effects								
<i>Tobin's Q</i>								
ESG	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)				
%	-0.17%	-0.36%	-0.16%	-0.70%				
Factor ESG					0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
%					0.04%	-0.12%	0.34%	0.15%
Total effects								
<i>Tobin's Q</i>								
Industry-Adjusted Sales Growth	0.048 (0.013) ***	0.013 (0.010)	0.074 (0.021) ***	0.028 (0.016) *	0.048 (0.013) ***	0.013 (0.010)	0.066 (0.020) ***	0.022 (0.015)
ESG	0.036 (0.003) ***	0.008 (0.002) ***	0.032 (0.004) ***	0.007 (0.003) **				
Factor ESG					0.080 (0.006) ***	0.019 (0.004) ***	0.063 (0.007) ***	0.015 (0.005) ***
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
<i>N</i>	29,501	28,769	13,844	13,498	29,501	28,769	14,042	13,650
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
<i>Industry-Adjusted Sales Growth</i>	0.459	0.467	0.552	0.558	0.459	0.466	0.522	0.531
<i>Tobin's Q</i>	0.445	0.762	0.474	0.788	0.446	0.762	0.462	0.794
Overall	0.693	0.870	0.757	0.903	0.693	0.870	0.736	0.901

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted sales growth and Tobin's Q, followed by the indirect (mediation) effect on Tobin's Q and lastly the total effects on Tobin's Q. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from overall equal weights ESG, Columns 5-8 report results from overall factor ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 2 (Factor) ESG Performance and Financial Performance (ROA) through Industry-Adjusted Sales Growth

Variable	Equal Weights								Factor Weights							
	Unmatched		Matched		Unmatched		Matched		Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Direct effects																
<i>Industry-Adjusted Sales Growth</i>																
ESG	-0.001	(0.002)	-0.001	(0.002)	-0.001	(0.003)	-0.001	(0.003)								
Factor ESG									0.001	(0.004)	0.001	(0.004)	0.005	(0.004)	0.005	(0.005)
<i>ROA</i>																
Industry-Adjusted Sales Growth	0.466	(0.140) ***	0.869	(0.099) ***	0.658	(0.209) ***	0.898	(0.156) ***	0.465	(0.140) ***	0.869	(0.099) ***	0.810	(0.208) ***	0.999	(0.152) ***
ESG	0.092	(0.028) ***	0.001	(0.018)	0.211	(0.037) ***	0.059	(0.023) **								
Factor ESG									0.154	(0.052) ***	-0.009	(0.033)	0.440	(0.064) ***	0.143	(0.039) ***
Indirect effects																
<i>ROA</i>																
ESG	-0.001	(0.001)	-0.001	(0.002)	-0.001	(0.002)	-0.001	(0.003)								
%		-0.57%		-102.78%		-0.44%		-1.73%								
Factor ESG									0.000	(0.002)	0.001	(0.003)	0.004	(0.004)	0.005	(0.005)
%										0.24%		-13.23%		0.92%		3.68%
Total effects																
<i>ROA</i>																
Industry-Adjusted Sales Growth	0.466	(0.140) ***	0.869	(0.099) ***	0.658	(0.209) ***	0.898	(0.156) ***	0.465	(0.140) ***	0.869	(0.099) ***	0.810	(0.208) ***	0.999	(0.152) ***
ESG	0.091	(0.028) ***	0.001	(0.018)	0.210	(0.037) ***	0.058	(0.023) **								
Factor ESG									0.154	(0.052) ***	-0.008	(0.033)	0.444	(0.065) ***	0.149	(0.040) ***
Control variables	YES		YES		YES		YES		YES		YES		YES		YES	
Year dummies	YES		YES		YES		YES		YES		YES		YES		YES	
Industry dummies	YES		YES		YES		YES		YES		YES		YES		YES	
N	29,457		29,443		13,814		13,807		29,457		29,443		14,112		14,108	
Dependent variables	R ²		R ²		R ²		R ²		R ²		R ²		R ²		R ²	
<i>Industry-Adjusted Sales Growth</i>	0.458		0.459		0.540		0.540		0.458		0.459		0.520		0.520	
<i>ROA</i>	0.324		0.719		0.337		0.725		0.324		0.719		0.318		0.708	
Overall	0.620		0.842		0.681		0.868		0.620		0.842		0.658		0.854	

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted sales growth and ROA, followed by the indirect (mediation) effect on ROA and lastly the total effects on ROA. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from overall equal weights ESG, Columns 5-8 report results from overall factor ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Appendix C: Overall ESG and Labor Productivity growth

Table 1 (Factor) ESG Performance and Financial Performance (Tobin's Q) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights				Factor Weights			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct effects								
<i>Industry-Adjusted Labor Productivity growth</i>								
ESG	-0.001 (0.001)	0.000 (0.001)	0.000 (0.002)	0.000 (0.002)				
Factor ESG					0.001 (0.002)	0.003 (0.002)	0.003 (0.003)	0.004 (0.003)
<i>Tobin's Q</i>								
Industry-Adjusted Labor Productivity growth	-0.076 (0.020) ***	0.032 (0.015) **	-0.017 (0.030)	0.066 (0.023) ***	-0.077 (0.020) ***	0.031 (0.015) **	-0.045 (0.029)	0.054 (0.022) **
ESG	0.036 (0.003) ***	0.008 (0.002) ***	0.033 (0.004) ***	0.007 (0.003) ***				
Factor ESG					0.080 (0.006) ***	0.019 (0.004) ***	0.063 (0.007) ***	0.015 (0.005) ***
Indirect effects								
<i>Tobin's Q</i>								
ESG	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)				
%	0.22%	-0.14%	0.00%	0.42%				
Factor ESG					0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
%					-0.12%	0.45%	-0.22%	1.41%
Total effects								
<i>Tobin's Q</i>								
Industry-Adjusted Labor Productivity growth	-0.076 (0.020) ***	0.032 (0.015) **	-0.017 (0.030)	0.066 (0.023) ***	-0.077 (0.020) ***	0.031 (0.015) **	-0.045 (0.029)	0.054 (0.022) **
ESG	0.036 (0.003) ***	0.008 (0.002) ***	0.033 (0.004) ***	0.007 (0.003) ***				
Factor ESG					0.080 (0.006) ***	0.019 (0.004) ***	0.063 (0.007) ***	0.015 (0.005) ***
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES
N	29,196	28,512	13,714	13,388	29,196	28,512	13,910	13,542
Dependent variables	R ²	R ²	R ²	R ²	R ²	R ²	R ²	R ²
<i>Industry-Adjusted Labor Productivity growth</i>	0.587	0.593	0.647	0.652	0.587	0.593	0.631	0.637
<i>Tobin's Q</i>	0.458	0.762	0.484	0.787	0.459	0.762	0.476	0.794
Overall	0.768	0.900	0.810	0.923	0.769	0.900	0.800	0.922

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted labor productivity growth and Tobin's Q, followed by the indirect (mediation) effect on Tobin's Q and lastly the total effects on Tobin's Q. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from overall equal weights ESG, Columns 5-8 report results from overall factor ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Table 2

(Factor) ESG Performance and Financial Performance (ROA) through Industry-Adjusted Labor Productivity Growth

Variable	Equal Weights								Factor Weights							
	Unmatched				Matched				Unmatched				Matched			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(5)	(6)	(7)	(8)	(5)	(6)	(7)	(8)
Direct effects																
<i>Industry-Adjusted Labor Productivity growth</i>																
ESG	-0.001	(0.001)	-0.001	(0.001)	-0.001	(0.002)	-0.001	(0.002)								
Factor ESG									0.001	(0.002)	0.002	(0.002)	0.004	(0.003)	0.005	(0.003)
<i>ROA</i>																
Industry-Adjusted Labor Productivity growth	0.186	(0.213)	0.893	(0.136) ***	0.439	(0.306)	0.975	(0.198) ***	0.183	(0.213)	0.893	(0.136) ***	0.715	(0.311) **	1.184	(0.197) ***
ESG	0.088	(0.028) ***	-0.009	(0.017)	0.214	(0.036) ***	0.058	(0.022) ***								
Factor ESG									0.153	(0.052) ***	-0.017	(0.032)	0.417	(0.064) ***	0.103	(0.040) **
Indirect effects																
<i>ROA</i>																
ESG	0.000	(0.000)	-0.001	(0.001)	0.000	(0.001)	-0.001	(0.002)								
%		-0.23%		8.19%		-0.18%		-1.08%								
Factor ESG									0.000	(0.001)	0.001	(0.002)	0.003	(0.003)	0.006	(0.004)
%										0.15%		-8.79%		0.72%		5.09%
Total effects																
<i>ROA</i>																
Industry-Adjusted Labor Productivity growth	0.186	(0.213)	0.893	(0.136) ***	0.439	(0.306)	0.975	(0.198) ***	0.183	(0.213)	0.893	(0.136) ***	0.715	(0.311) **	1.184	(0.197) ***
ESG	0.087	(0.028) ***	-0.010	(0.018)	0.214	(0.037) ***	0.057	(0.022) **								
Factor ESG									0.153	(0.052) ***	-0.016	(0.033)	0.420	(0.065) ***	0.109	(0.040) ***
Control variables	YES		YES		YES		YES		YES		YES		YES		YES	
Year dummies	YES		YES		YES		YES		YES		YES		YES		YES	
Industry dummies	YES		YES		YES		YES		YES		YES		YES		YES	
N	29,152		29,138		13,677		13,670		29,152		29,138		13,973		13,969	
Dependent variables	R ²		R ²		R ²		R ²		R ²		R ²		R ²		R ²	
Industry-Adjusted Labor Productivity growth	0.587		0.588		0.645		0.645		0.587		0.588		0.627		0.627	
ROA	0.331		0.748		0.345		0.754		0.331		0.748		0.328		0.738	
Overall	0.711		0.891		0.754		0.908		0.711		0.891		0.736		0.897	

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Reported are first the direct effects on respectively industry-adjusted labor productivity growth and ROA, followed by the indirect (mediation) effect on ROA and lastly the total effects on ROA. Reported below significant indirect effects is the percentage of the total effect that is explained by the (partial) mediation effect. Columns 1-4 report results from overall equal weights ESG, Columns 5-8 report results from overall factor ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable. All specifications include year and industry (two-digit SIC code) dummies; The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

Appendix D: The Economic Crisis, a Difference-in-Difference approach

In this appendix the same Difference-in-Difference approach is used for the latest economic crisis as for the Paris Climate Agreement in Section 4.3. Since the data sample covers firms from 2003 to 2018, effects from the latest economic crisis and the Paris Climate Agreement can be analyzed. As the economic crisis has already been studied and is not the focus of this study, the results are presented here. The latest economic crisis has been subject of other studies (e.g. Hong et al, 2015; Lins et al, 2017; Buchanan et al, 2018). However, several methods have not been used by previous studies. Firstly, previous studies have focused on (abnormal) stock returns instead of short- (ROA) or long-term (Tobin's Q) performance. Secondly, models here are estimated over both a matched and unmatched sample to control for unobservable heterogeneity. Thirdly, ESG performance is mostly assumed to be a single overall measure based on equal weighting, while in this analysis factor weighting and domain analysis are also used to give a deeper understanding of the economic shock. Fourthly, the used models include board diversity measures based on the practice from corporate governance. To mitigate potential biases from the Paris Climate Agreement the years after 2012 are excluded. Based on the practice of Lins et al (2017) and Buchanan et al (2018) the economic crisis is defined as the years 2008 and 2009.

Lins et al (2017) argue that social capital (influenced through ESG) is of significant influence on the trust that stakeholders have in firms. Firms with a high ESG rating have a four to seven percent higher stock return in crisis years than firms with low ESG ratings (thus lower stakeholder trust). However, they find that the effect does not hold outside of crisis periods. ESG is thus a way for firms to make their financial performance robust to sudden decreases in trust (during a crisis). Buchanan et al (2018), on the other hand, argue that the positive effect found by Lins et al (2017) only holds for firms with high institutional ownership.

However, the results from Table 1 contradict the conclusions from Lins et al (2017) and Buchanan et al (2018). For both the equal weights and factor ESG measure, Tobin's Q is significantly lower during and after the crisis years. For short-term performance, there is no significant effect for either ESG measure. High (factor) ESG firms are not able to increase short-term performance relative to low (factor) ESG firms during and after the economic crisis.

Moreover, the results are robust to controlling for the number of block holders and high influential ownership (proxied by ownership concentration) as indicated by Buchanan et al (2018). In unrepresented results triple differences (ESG, economic crisis, and high influential ownership) following the practice of Buchanan et al (2018) result in the same conclusions. In all model specifications the triple difference is insignificant while the effect between crisis and ESG remains significantly negative. Thus, based on the overall ESG measures during the crisis and the years thereafter, firms with high ESG do not experience a lower short-term performance but do have a lower long-term performance. Investors are likely under the impression that after such a heavy economic crisis firms should focus on the interest of the shareholders, which ESG is arguably not part of.

Table 1

Short- and Long-term Financial Performance Surrounding the Economic Crisis and overall (Factor) ESG Performance

Panel A: Equal Weights <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG	0.039 (0.006) ***	0.008 (0.005)	0.046 (0.008) ***	0.012 (0.007) *	0.041 (0.052)	-0.025 (0.049)	0.236 (0.067) ***	-0.042 (0.064)
Crisis	-0.255 (0.038) ***	-0.159 (0.027) ***	-0.240 (0.067) ***	-0.120 (0.043) ***	-1.018 (0.403) **	0.412 (0.261)	-1.137 (0.652) *	1.266 (0.437) ***
Post-Crisis	-0.274 (0.040) ***	-0.084 (0.029) ***	-0.347 (0.066) ***	-0.095 (0.048) **	-1.186 (0.373) ***	0.544 (0.284) *	-1.150 (0.581) **	1.476 (0.470) ***
Crisis#ESG	-0.020 (0.008) **	-0.017 (0.006) ***	-0.036 (0.010) ***	-0.027 (0.008) ***	0.103 (0.088)	0.053 (0.060)	0.024 (0.105)	0.103 (0.072)
Post-Crisis#ESG	0.001 (0.008)	-0.012 (0.006) **	-0.018 (0.010) *	-0.017 (0.007) **	0.136 (0.072) *	-0.028 (0.056)	0.032 (0.092)	0.011 (0.070)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	18,540	18,140	6,826	6,683	18,496	18,482	6,807	6,800
R ²	0.441	0.320	0.486	0.366	0.315	0.294	0.296	0.277
Adjusted R ²	0.438		0.479		0.312		0.286	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Panel B: Factor Weights <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Factor ESG	0.110 (0.012) ***	0.015 (0.011)	0.108 (0.016) ***	0.019 (0.013)	-0.076 (0.107)	-0.075 (0.107)	0.326 (0.134) **	0.034 (0.133)
Crisis	-0.263 (0.037) ***	-0.152 (0.026) ***	-0.259 (0.063) ***	-0.108 (0.043) **	-1.096 (0.394) ***	0.382 (0.256)	-1.486 (0.622) **	0.733 (0.435) *
Post-Crisis	-0.272 (0.039) ***	-0.081 (0.029) ***	-0.297 (0.065) ***	-0.103 (0.047) **	-1.108 (0.371) ***	0.541 (0.284) *	-1.407 (0.587) **	0.865 (0.478) *
Crisis#Factor ESG	-0.055 (0.016) ***	-0.039 (0.013) ***	-0.065 (0.020) ***	-0.048 (0.014) ***	0.244 (0.173)	0.050 (0.124)	0.137 (0.205)	0.093 (0.143)
Post-Crisis#Factor ESG	-0.038 (0.014) ***	-0.025 (0.011) **	-0.055 (0.019) ***	-0.024 (0.013) *	0.280 (0.127) **	-0.005 (0.107)	0.142 (0.161)	-0.034 (0.133)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	18,540	18,140	7,387	7,220	18,496	18,482	7,360	7,356
R ²	0.443	0.320	0.470	0.367	0.315	0.294	0.306	0.290
Adjusted R ²	0.440		0.463		0.312		0.297	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from equal weights ESG and Panel B from factor weights ESG. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; Crisis is a dummy variable equal to one if the year is 2008 or 2009, Post-Crisis is a dummy variable equal to one if the year is >2009. # denotes a Difference (interaction) effect of the variable on the left and on the right of #. Firm year observations after 2012 are excluded. The control variables are the same as in Table 8. All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

This view is further supported in Panel A of Table 2 where the analysis is performed on total factor strengths and concerns. During the crisis investors value firms with strengths lower and with concerns higher, presumably because investors view firms with more concerns as being more focused on acting in the interest of shareholders than in “pleasing” other stakeholders’ wishes. However, this view is not supported by short-term performance. In line with Lins et al (2017), ROA is significantly higher for firms with more strengths during the crisis, but this effect disappears in the years after the crisis. For concerns the positive effect on long-term performance disappears for the years after the crisis. There is even some evidence that ROA is significantly lower for firms with more concerns in years after the crisis (in the years after the Paris Agreement ROA is even lower for firms with more concerns).

As seen throughout this study, finding effects for overall ESG measures or total factor strengths and concerns do not tend to hold for a more detailed domain analysis. As Panel B of Table 2 shows, the effects differ significantly between domains. Environmental strengths do not increase or decrease short- and long-term performance, whereas Environmental concerns negatively impact short-term performance and positively impact long-term performance in both the crisis year and thereafter. This contradiction is especially interesting since the effect of concerns on short- and long-term performance remains unadjusted in the Paris Climate Agreement analysis. The results thus indicate that after the crisis Environmental concerns impact ROA more negatively, but long-term performance is slightly higher. Investors overestimated the negative effects of Environmental concerns before the crisis and adjusted their valuation upwards during the economic crisis and the years thereafter.

Furthermore, investors also revalue Product strengths and Corporate Governance concerns during the crisis. During and after the crisis Product strengths & Corporate Governance concerns result in a lower long-term performance than in the years before the crisis, though there is no significant difference for Product strengths and only inconsistent evidence for Corporate Governance concerns on short-term performance. Investors thus seem to use the economic crisis to evaluate how much value each domain strength and concern really adds or destroys.

The Social domains of Community, Human Rights, Employee Relations and Diversity all show insignificant effects with respect to the crisis for both short- and long-term performance. These domains have the same value to the firm and investors before and after the crisis. This is a distinct difference with the Paris Agreement, which displays differences before and after the Agreement for most domains. The combined results indicate that the two exogenous shocks (Economic crisis and Paris Agreement) have very different effects on short- and long-term performance.

In conclusion, the presented results oppose the results from Lins et al (2017) that firms with high ESG performance perform better during a crisis. Based on both overall ESG measures, firms with a higher ESG performance perform worse during and after the crisis compared to lower ESG firms. The total factor strength and concern analysis and domain analysis show that firms with more concerns have a lower ROA during and after the economic crisis. However, those firms also tend to have a higher long-term performance compared to firms with no or lower amount of concerns. Furthermore, there is also

Table 2

Short- and Long-term Financial Performance Surrounding the Economic Crisis and ESG Performance per (Domain) Strength & Concern

Panel A: Factor Strengths & Concerns <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strengths	0.183 (0.015) ***	0.025 (0.013) *	0.160 (0.019) ***	0.038 (0.016) **	-0.232 (0.120) *	-0.063 (0.131)	0.250 (0.152)	-0.008 (0.160)
Concerns	0.044 (0.015) ***	-0.007 (0.016)	0.010 (0.019)	0.005 (0.021)	-0.271 (0.156) *	-0.031 (0.153)	-0.484 (0.199) **	-0.259 (0.204)
Crisis	-0.291 (0.040) ***	-0.170 (0.028) ***	-0.245 (0.068) ***	-0.091 (0.047) **	-1.380 (0.435) ***	0.389 (0.275)	-2.107 (0.710) ***	0.551 (0.477)
Post-Crisis	-0.177 (0.040) ***	-0.078 (0.030) ***	-0.188 (0.068) ***	-0.079 (0.048) *	-1.259 (0.383) ***	0.589 (0.288) **	-1.514 (0.619) **	0.831 (0.491) *
Crisis#Strengths	-0.056 (0.018) ***	-0.033 (0.013) **	-0.072 (0.022) ***	-0.059 (0.016) ***	0.421 (0.179) **	0.062 (0.132)	0.438 (0.228) *	0.196 (0.166)
Post-Crisis#Strengths	-0.088 (0.015) ***	-0.028 (0.012) **	-0.091 (0.020) ***	-0.037 (0.015) **	0.443 (0.131) ***	0.013 (0.115)	0.228 (0.169)	0.001 (0.146)
Crisis#Concerns	0.042 (0.019) **	0.049 (0.016) ***	0.031 (0.023)	0.030 (0.018) *	0.103 (0.225)	-0.030 (0.157)	0.238 (0.260)	0.051 (0.177)
Post-Crisis#Concerns	-0.016 (0.021)	0.013 (0.018)	-0.022 (0.027)	-0.013 (0.021)	-0.603 (0.223) ***	-0.357 (0.174) **	-0.434 (0.271)	-0.180 (0.211)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
<i>N</i>	18,540	18,140	7,387	7,220	18,496	18,482	7,360	7,356
R ²	0.450	0.320	0.475	0.368	0.316	0.295	0.307	0.291
Adjusted R ²	0.447		0.468		0.312		0.297	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Panel B: Strengths & Concerns <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Environment Strength	-0.020 (0.030)	-0.016 (0.025)	-0.063 (0.040)	-0.042 (0.027)	-0.247 (0.289)	-0.134 (0.245)	-0.364 (0.354)	0.054 (0.269)
Environment Concern	-0.042 (0.015) ***	-0.017 (0.020)	-0.036 (0.022)	-0.028 (0.026)	0.477 (0.154) ***	0.366 (0.192) *	0.705 (0.224) ***	0.509 (0.264) *
Community Strength	0.069 (0.026) ***	-0.038 (0.025)	0.097 (0.033) ***	-0.021 (0.027)	-0.310 (0.214)	-0.189 (0.249)	0.185 (0.255)	-0.028 (0.270)
Community Concern	-0.020 (0.029)	-0.024 (0.033)	-0.001 (0.040)	-0.017 (0.044)	-0.145 (0.298)	0.264 (0.326)	-0.106 (0.446)	0.262 (0.434)
Human Rights Strength	-0.054 (0.132)	-0.022 (0.134)	-0.066 (0.139)	0.085 (0.135)	1.006 (1.020)	-1.035 (1.318)	1.804 (1.292)	-1.330 (1.372)
Human Rights Concern	0.077 (0.038) **	0.040 (0.036)	0.070 (0.060)	0.031 (0.052)	-0.114 (0.383)	0.510 (0.349)	0.409 (0.531)	0.604 (0.511)
Employee Relations Strength	0.119 (0.023) ***	0.010 (0.018)	0.120 (0.031) ***	0.040 (0.022) *	0.293 (0.208)	-0.021 (0.180)	0.417 (0.254)	0.310 (0.211)
Employee Relations Concern	-0.044 (0.016) ***	-0.011 (0.014)	-0.023 (0.029)	0.001 (0.022)	-1.264 (0.171) ***	-0.257 (0.135) *	-1.305 (0.256) ***	-0.185 (0.217)
Diversity Strength	0.127 (0.022) ***	0.040 (0.022) *	0.080 (0.027) ***	0.043 (0.026) *	-0.767 (0.209) ***	0.090 (0.213)	-0.009 (0.265)	0.031 (0.250)
Diversity Concern	0.020 (0.024)	0.012 (0.019)	-0.035 (0.050)	-0.102 (0.037) ***	0.282 (0.232)	0.067 (0.184)	-0.558 (0.478)	-0.511 (0.353)
Product Strength	0.353 (0.064) ***	0.116 (0.042) ***	0.344 (0.081) ***	0.175 (0.049) ***	1.318 (0.495) ***	-0.198 (0.412)	1.860 (0.622) ***	0.005 (0.475)
Product Concern	0.025 (0.021)	-0.024 (0.021)	-0.001 (0.031)	-0.005 (0.029)	-0.229 (0.195)	-0.274 (0.204)	-0.968 (0.277) ***	-0.026 (0.282)
Corporate Governance Strength	0.056 (0.031) *	0.030 (0.021)	0.064 (0.045)	-0.011 (0.030)	0.247 (0.284)	0.235 (0.206)	-0.196 (0.402)	-0.387 (0.309)
Corporate Governance Concern	0.185 (0.022) ***	0.028 (0.017) *	0.148 (0.036) ***	0.045 (0.027) *	0.616 (0.216) ***	-0.174 (0.162)	0.370 (0.319)	-0.170 (0.263)
Crisis	-0.257 (0.043) ***	-0.146 (0.032) ***	-0.189 (0.074) **	-0.077 (0.051)	-1.116 (0.493) **	0.740 (0.309) **	-1.654 (0.778) **	1.518 (0.516) ***
Post-Crisis	-0.179 (0.042) ***	-0.069 (0.031) **	-0.233 (0.070) ***	-0.080 (0.051)	-1.361 (0.405) ***	0.551 (0.299) *	-1.273 (0.651) *	1.647 (0.504) ***

Table 2 (Continued)

Short and Long-term Performance Surrounding the Economic Crisis and ESG Performance per (Domain) Strength & Concern

Panel B: Strengths & Concerns <i>Independent Variable</i>	Tobin's Q				ROA			
	Unmatched		Matched		Unmatched		Matched	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crisis#Environment Strength	0.047 (0.044)	0.006 (0.032)	0.086 (0.050) *	0.007 (0.034)	-0.259 (0.492)	-0.035 (0.311)	0.214 (0.558)	-0.264 (0.329)
Post-Crisis#Environment Strength	0.097 (0.034) ***	-0.014 (0.028)	0.087 (0.044) **	0.006 (0.031)	0.492 (0.335)	-0.095 (0.273)	0.775 (0.396) *	-0.187 (0.300)
Crisis#Environment Concern	0.070 (0.024) ***	0.055 (0.023) **	0.049 (0.030)	0.034 (0.029)	-0.566 (0.319) *	-0.465 (0.223) **	-1.042 (0.404) **	-0.575 (0.282) **
Post-Crisis#Environment Concern	0.056 (0.022) **	0.046 (0.025) *	0.074 (0.031) **	0.051 (0.031)	-0.993 (0.268) ***	-0.422 (0.246) *	-1.280 (0.319) ***	-0.445 (0.310)
Crisis#Community Strength	0.093 (0.044) **	0.061 (0.037)	0.039 (0.048)	0.010 (0.039)	0.133 (0.480)	0.170 (0.367)	-0.527 (0.501)	0.071 (0.383)
Post-Crisis#Community Strength	0.003 (0.039)	0.056 (0.035)	-0.070 (0.045)	0.034 (0.038)	0.623 (0.365) *	0.220 (0.344)	-0.190 (0.404)	0.159 (0.371)
Crisis#Community Concern	0.079 (0.045) *	0.065 (0.046)	0.098 (0.056) *	0.038 (0.059)	0.595 (0.571)	-0.225 (0.457)	0.493 (0.769)	-0.180 (0.589)
Post-Crisis#Community Concern	-0.029 (0.056)	0.054 (0.063)	-0.065 (0.074)	-0.001 (0.078)	0.035 (0.646)	-0.620 (0.619)	-0.013 (0.772)	-0.128 (0.770)
Crisis#Human Rights Strength	-0.086 (0.178)	0.015 (0.172)	-0.142 (0.175)	-0.105 (0.169)	-0.605 (2.114)	-0.692 (1.688)	-1.806 (2.287)	-1.114 (1.693)
Post-Crisis#Human Rights Strength	0.148 (0.147)	-0.010 (0.143)	0.190 (0.162)	-0.054 (0.145)	-1.620 (1.458)	-0.047 (1.407)	-2.162 (1.905)	0.328 (1.454)
Crisis#Human Rights Concern	0.050 (0.057)	-0.040 (0.056)	0.122 (0.078)	0.004 (0.067)	-0.364 (0.740)	-0.242 (0.548)	0.060 (1.002)	-0.099 (0.651)
Post-Crisis#Human Rights Concern	-0.143 (0.079) *	-0.117 (0.078)	-0.043 (0.106)	-0.102 (0.090)	-0.127 (0.720)	-0.662 (0.765)	-0.910 (0.929)	-0.662 (0.927)
Crisis#Employee Relations Strength	-0.038 (0.033)	0.000 (0.024)	-0.094 (0.042) **	-0.049 (0.028) *	-0.214 (0.400)	-0.348 (0.238)	-0.147 (0.472)	-0.025 (0.274)
Post-Crisis#Employee Relations Strength	-0.032 (0.028)	-0.019 (0.021)	-0.032 (0.037)	-0.037 (0.024)	-0.194 (0.246)	0.102 (0.203)	-0.227 (0.292)	-0.221 (0.234)
Crisis#Employee Relations Concern	0.046 (0.024) *	0.014 (0.019)	-0.004 (0.038)	0.012 (0.029)	0.738 (0.309) **	0.245 (0.187)	0.474 (0.428)	-0.196 (0.285)
Post-Crisis#Employee Relations Concern	0.086 (0.032) ***	0.044 (0.025) *	0.006 (0.041)	0.005 (0.033)	0.326 (0.340)	0.147 (0.247)	0.418 (0.432)	-0.214 (0.322)
Crisis#Diversity Strength	-0.072 (0.032) **	-0.061 (0.025) **	-0.047 (0.038)	-0.042 (0.028)	0.665 (0.375) *	0.198 (0.249)	0.496 (0.428)	0.136 (0.277)
Post-Crisis#Diversity Strength	-0.052 (0.031) *	-0.031 (0.025)	-0.012 (0.037)	-0.019 (0.028)	0.498 (0.297) *	0.001 (0.241)	0.382 (0.353)	0.020 (0.271)
Crisis#Diversity Concern	-0.016 (0.036)	-0.033 (0.026)	0.103 (0.066)	0.063 (0.048)	-0.982 (0.453) **	-0.810 (0.254) ***	0.500 (0.841)	-0.033 (0.466)
Post-Crisis#Diversity Concern	0.006 (0.039)	-0.003 (0.028)	0.106 (0.068)	0.121 (0.047) **	-0.626 (0.397)	0.254 (0.274)	0.180 (0.647)	0.665 (0.456)
Crisis#Product Strength	-0.157 (0.090) *	-0.191 (0.057) ***	-0.172 (0.111)	-0.258 (0.064) ***	1.114 (0.888)	0.238 (0.557)	0.388 (1.142)	0.049 (0.625)
Post-Crisis#Product Strength	-0.259 (0.073) ***	-0.072 (0.052)	-0.253 (0.090) ***	-0.141 (0.058) **	-0.271 (0.613)	0.157 (0.501)	-1.033 (0.735)	-0.051 (0.571)
Crisis#Product Concern	0.052 (0.031) *	0.048 (0.026) *	0.021 (0.038)	0.012 (0.033)	0.750 (0.363) **	0.541 (0.256) **	1.031 (0.422) **	0.434 (0.318)
Post-Crisis#Product Concern	-0.007 (0.032)	0.008 (0.028)	0.032 (0.044)	0.005 (0.036)	0.752 (0.354) **	0.181 (0.271)	1.319 (0.431) ***	-0.008 (0.345)
Crisis#Corporate Governance Strength	-0.051 (0.045)	-0.024 (0.032)	-0.055 (0.060)	0.020 (0.042)	0.257 (0.541)	0.086 (0.313)	0.995 (0.717)	0.725 (0.419) *
Post-Crisis#Corporate Governance Strength	-0.109 (0.044) **	-0.047 (0.037)	-0.092 (0.057)	0.006 (0.046)	-0.445 (0.462)	-0.354 (0.366)	0.071 (0.560)	0.173 (0.451)
Crisis#Corporate Governance Concern	-0.135 (0.031) ***	-0.028 (0.023)	-0.097 (0.048) **	-0.019 (0.036)	-0.522 (0.381)	-0.089 (0.229)	-0.322 (0.516)	-0.170 (0.343)
Post-Crisis#Corporate Governance Concern	-0.155 (0.034) ***	-0.094 (0.027) ***	-0.134 (0.050) ***	-0.053 (0.039)	-1.487 (0.388) ***	0.019 (0.264)	-0.859 (0.477) *	-0.065 (0.375)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	NO	YES	NO	YES	NO	YES	NO
Firm fixed effects	NO	YES	NO	YES	NO	YES	NO	YES
N	18,540	18,140	6,826	6,683	18,496	18,482	6,807	6,800
R ²	0.454	0.323	0.499	0.374	0.320	0.297	0.302	0.284
Adjusted R ²	0.450		0.489		0.315		0.288	
Regression type	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects	OLS	Fixed Effects

Note. Standard errors are in parentheses and adjusted for heteroskedasticity. Panel A reports results from total factor strengths & concerns and Panel B from domain strengths & concerns. Columns 1-2 and 5-6 report the results over the unmatched sample and Columns 3-4 and 7-8 over the matched sample. Columns 1, 3, 5 and 7 report the baseline model, Columns 2, 4, 6 and 8 the model with a one year lagged dependent variable and firm fixed effects. All specifications include year and industry (two-digit SIC code) dummies except Columns 2, 4, 6 and 8 as they have firm fixed effects instead of industry dummies; Crisis is a dummy variable equal to one if the year is 2008 or 2009, Post-Crisis is a dummy variable equal to one if the year is >2009. # denotes a Difference (interaction) effect of the variable on the left and on the right of #. Firm year observations after 2012 are excluded. The control variables are the same as in Table 8.

All variable are defined and winsorized as in Table 1; *, **, *** represent significance at the 10%, 5% and 1% levels, respectively.

no evidence that high influential ownership, as proposed by Buchanan et al (2018), changes the results. The results do indicate the importance of (not) assuming equal weights when constructing an overall ESG performance measure. Results not only differ when comparing both overall ESG measures but the total factor strengths & concerns and domain analysis displays the nuances that exist within ESG performance. Basing results solely on overall ESG measures will result in inaccurate results. As a recommendation for further research, an accurate weighting model which accurately represents the weighting of society should be constructed before using an overall ESG measure.