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The Impact of ESG on Shareholder Value in Mergers and Acquisitions: A Comparative Analysis Before and During the COVID-19 Pandemic

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Abstract

This paper investigates the impact of the environmental, social, and governance (ESG) performance of merging firms on acquirer shareholder value before and during the COVID-19 pandemic. Utilizing a global sample of 416 merger and acquisition (M&A) deals announced between 2010 and 2022, an event study methodology is applied to estimate acquirer cumulative abnormal returns (CARs). Subsequently, a multivariate regression analysis is conducted. The results indicate that, on average, there is no significant effect of ESG performance—of the acquirer, target, or target relative to acquirer—on acquirer CAR. However, the relationship between acquirer ESG and acquirer CAR is significantly and negatively impacted by the COVID-19 pandemic. The analysis of individual ESG components reveals that this negative effect is driven by the environmental and governance dimensions. In addition, it is observed that COVID-19 has positively influenced the relationship between the target's relative environmental performance and governance performance and acquirer announcement returns. Assessing the moderating role of cultural distance between the merging firms, the results show that the positive effect of COVID-19 for relative environmental performance is stronger when the home and host country of the M&A deal are more culturally distant. Lastly, the subsample analysis demonstrates that the observed COVID-19 effects are pertinent to certain types of M&A deals. Altogether, it appears that market participants altered their view on ESG initiatives during the COVID-19 pandemic. The findings suggest that this shift is linked to the economic uncertainties brought about by the pandemic and risk-averse behavior among investors, leading to a devaluation of acquirers' ESG initiatives and, at the same time, a greater recognition of the value embedded in targets' superior ESG capabilities.

Keywords: Mergers and acquisitions (M&As), ESG, COVID-19, shareholder value, event study

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1 Introduction

In today's business landscape, firms' engagement to corporate social responsibility (CSR) has gained widespread recognition as an integral component of business practices and strategies. Among others, this growing emphasis on CSR is driven by shifts in consumer behavior, with customers increasingly considering CSR-related factors when making purchasing decisions. Consequently, a firm's CSR reputation may directly influence its bottom line, making it a key consideration for investors. Investors are showing a growing preference for companies that demonstrate strong performance in environmental, social, and governance (ESG) areas, which are the primary dimensions utilized to quantify the concept of CSR. Companies with superior ESG performance tend to be perceived by financial market participants as more future orientated and better equipped to anticipate on risk and opportunities (Amel-Zadeh & Serafeim, 2018; Deloitte, 2022). Conversely, investments in businesses with poor ESG practices can lead to undesirable risk exposure, prompting investors to divest from these companies. A case in point is the Volkswagen emission scandal of 2015, in which it was revealed that the car manufacturer had installed software in its diesel vehicles to bypass emission control tests. This scandal significantly damaged the firm's reputation and trust among investors, leading many investors to divest from the company and causing a sharp drop in its stock price (Jung & Sharon, 2019).

At the onset of 2020, a worldwide economic recession was triggered by the emergence of the novel coronavirus disease 2019 (COVID-19), which was declared a pandemic by the World Health Organization on March 11, 2020 (WHO, 2020). As of May 11 this year, the WHO declared an end to COVID-19 as a public health emergency (WHO, 2023). Recent studies have argued that the COVID-19 pandemic has had significant ramifications for the perception of companies' ESG initiatives. On the one hand, it is argued by scholars that the pandemic has compelled firms to enhance their ESG practices, for example to safeguard support from their employees, customers, and other stakeholders in the face of the economic challenges and uncertainty. The pandemic has highlighted the role that companies can play in addressing societal issues and underscored that socially and environmentally responsible firms are better positioned to weather crises (Broadstock et al., 2021; Lins et al., 2017). Contrarily, others posit that firms may scale back investments in CSR activities in times of crisis and instead prioritize their core business to ensure survival (Tampakoudis et al., 2021). This perspective emphasizes the importance of financial flexibility during times of economic turmoil, such as the COVID-19 pandemic.

In light of the economic uncertainty caused by the pandemic, many companies have turned to mergers and acquisitions (M&As) as a means to strengthen their position and build long-term resilience. The success of M&As—which are one of the most important strategical

business decisions—strongly relies on the involvement of numerous stakeholders, stressing the significance of firms' consideration of CSR factors. According to Deloitte (2021) and PwC (2022), ESG has become an essential part of M&A transaction due diligence, with prospective acquirers becoming increasingly aware of the need to thoroughly evaluate the risks and opportunities associated with a target company's ESG profile. Among others, this due diligence process may include an assessment of the degree to which the ESG commitment of the two firms are aligned, or an investigation of the potential for leveraging complementary CSR- or ESG-related capabilities. From an investor's standpoint, existing literature provides ample evidence that the ESG performance of firms involved in the M&A transaction has significant implications for shareholder value (e.g., Aktas et al., 2011; Deng et al., 2013; Guidi et al., 2020). Previous research has also documented that the relationship between ESG performance and (financial) M&A outcomes is influenced by various contextual factors, such as the prevailing economic climate (e.g., Hoang et al., 2020; Lins et al., 2017). In this study, I propose to build on existing empirical work and investigate the effect of the ESG performance of merging firms on shareholder value in an M&A setting, before and during the COVID-19 pandemic. Specifically, I examine whether the market valued ESG differently during the pandemic by analyzing stock price reactions to M&A announcements using an event study approach. This should provide insights into investors' sentiment and their evaluation of ESG considerations in M&A transactions in times of heightened economic uncertainty. The corresponding research question that this paper aims to answer is stated as follows:

How did the COVID-19 crisis affect the relationship between the ESG performance of merging firms and acquirer announcement returns?

Although the importance of firms' CSR activities during the COVID-19 crisis has been acknowledged in the literature, the specific impact of CSR or ESG factors on M&A announcement returns during the pandemic is largely unexplored. To the best of my knowledge, the study conducted by Tampakoudis et al. (2021) is the first and only research that addresses this topic, investigating the effect of acquirers' ESG performance on acquirer shareholder value before and during the COVID-19 pandemic. The authors utilize a sample of 889 M&A deals by U.S. firms announced between 1 January 2018 and 31 July 2020. They establish a negative relationship between acquirers' ESG performance and shareholder value based on the entire sample period. Further analysis shows that this negative effect is largely attributable to the pandemic period. In other words, COVID-19 negatively impacted the link between acquirers' ESG performance and acquirer announcement returns. These findings suggest that during the pandemic, investors attached different values to the ESG initiatives of acquirers compared to the period prior to COVID-19.

Through these insights, the study by Tampakoudis et al. (2021) constitutes an essential basis for the present study. By addressing the limitations of their study, I intend to advance this relatively unexplored area of research in multiple ways. First, this research contributes to the literature by incorporating the ESG performance of both merging firms, rather than solely that of the acquirer. As emphasized by other studies, the (relative) CSR or ESG performance of the target firm is a key determinant of M&A outcomes (e.g., Deng et al., 2013; Gomes & Marsat, 2018). Second, besides firms' aggregate or overall ESG performance, this study explores differences across the individual environmental, social, and governance dimensions. By doing so, I respond to the call of related studies to disentangle the effects of the distinct components of ESG. For instance, Tampakoudis and Anagnostopoulou (2020) and Tampakoudis et al. (2021) stress that their use of aggregate ESG ratings hampers the interpretation of their empirical results, due to the idiosyncratic nature of the underlying components. Third, whereas Tampakoudis et al. (2021) only consider the U.S. context, this study employs an international sample with more recent data and an expanded COVID-19 period. Thereby, the persistence of the COVID-19 effects can be better assessed and the generalizability of the results improves. Lastly, this study provides an investigation of the moderating role of cultural distance between the firms involved in the M&A transaction, as well as an extensive subsample analysis. While the main relationship under study helps us determine the average effect of ESG on M&A announcement returns during COVID-19, various studies have illustrated that value creation from M&As is contingent on certain firm- and deal-level characteristics (Morosini et al., 1998; Stahl & Voigt, 2008; Weber et al., 2009; Qiao & Wu, 2019). Given the nature of the pandemic period, one might anticipate that the impact of COVID-19 on the relationship between ESG and shareholder value depends on the cultural distance between the merging firms. For instance, M&A integration complexities related to cultural distance were more difficult to resolve during the COVID-19 pandemic, thereby potentially affecting the value effect of ESG during COVID-19. Altogether, this study sheds novel light on the implications of the COVID-19 pandemic for shareholders' outlook on ESG initiatives of merging firms.

In the empirical analysis, a global sample of 416 M&A deals announced between 1 January 2010 and 31 December 2022 is used, which covers all major industries. The deals are obtained from Refinitiv Eikon and matched with (pre-deal) ESG data and firm-level controls for both the acquirer and target, as well as acquirer stock prices surrounding M&A announcement. First, a traditional event study is performed to estimate acquirer cumulative abnormal returns (CARs) in the three-, seven-, and eleven-day window around the M&A event. Subsequently, various multivariate regression analyses are conducted to determine the impact of ESG on acquirer announcement returns before and during COVID-19. The results indicate that overall ESG performance—of the acquirer, target, or target relative to acquirer—does not have a significant effect on acquirer CAR across all three event windows. However, the relationship between

acquirer ESG and acquirer CAR is significantly and negatively impacted by the COVID-19 pandemic when considering the three-day window around M&A announcement. Examining differences across the individual ESG pillars, this negative effect is found to be driven by the environmental and governance dimensions. Conversely, the pandemic positively influenced the relationship between the target's relative environmental performance and governance performance and acquirer CAR. Whereas the moderating role of cultural distance appears to be limited (perhaps due to a lack of statistical power), a positive and significant moderating effect on the impact of COVID-19 is found for the target's relative environmental performance. The robustness analysis illustrates that the main results—regarding the joint effect of ESG and COVID-19 on CARs—remain unchanged when augmenting the market model (used to derive abnormal returns) with two additional stock market factors that are common in the literature. Moreover, the subsample analysis reveals that the negative impact of COVID-19 on the relationship between acquirers' overall ESG and acquirer announcement returns is primarily attributable to specific subsets of the data, namely cross-border deals, all-cash deals, and deals with low relative deal value. For the last two subsamples, the positive yet insignificant COVID-19 effect found in the main analysis when considering the target's relative ESG performance becomes more pronounced and significant. Overall, it seems that market participants altered their view on ESG initiatives of merging firms amid the coronavirus crisis, especially with regards to environmental and governance practices. These empirical observations can be interpreted through the lenses of both shareholder theory and stakeholder theory. On the one hand, the findings suggest that the shift in investor behavior is linked to increased economic uncertainties and risk-averse behavior among market participants, leading to a prioritization of short-term financial stability over longer-term sustainability initiatives of the acquirer. At the same time, the evidence points to a heightened focus of investors on the value of (complementary) ESG capabilities embedded in more socially responsible targets, which can help the acquirer become more resilient during an economic downturn. The results presented in this study should help managers align their (ESG) business strategies with altering market conditions and changing investor priorities or expectations. On the other hand, the findings provide valuable guidance to investors in evaluating the risks and opportunities associated with ESG factors surrounding M&A transactions in times of crisis.

The remainder of this paper is organized as follows. First, Section 2 details the academic literature concerning ESG and M&A, serving as the basis for the hypothesis development. In Section 3, the data and sample selection procedure are discussed, whereas Section 4 illustrates the research methodology. In Section 5, the main results of the empirical analysis are presented in relation to the hypotheses, as well as several robustness analyses. Lastly, Section 6 and 7 provide the conclusion of this study, highlight its limitations, and offer recommendations for future research.

2 Theoretical Framework

This section provides a comprehensive overview of the relevant academic literature, forming the basis for the development of hypotheses. Because of the prominence of CSR in the literature and the theoretical similarities between CSR and ESG, the discussion below focusses primarily on CSR literature. First, the definition and theories of CSR and ESG are discussed. Second, literature regarding the influence of CSR and ESG on the performance of M&As is presented. Third, the relation between CSR and firm performance during COVID-19 is addressed. Lastly, the hypotheses examined in this study are formulated in Section 2.2.

2.1 Literature review

Definition of CSR and ESG

The concept of corporate social responsibility (CSR) was developed in the 1950s, in large part driven by the work of Howard Bowen (Bowen, 2013). Although its meaning has evolved over time, the essence of CSR is the view that businesses are obligated to consider the societal and environmental effects of their operations and decisions, beyond the interest of shareholders. Here, corporations are considered crucial for the advancement of sustainable development in society, alongside their main business activities focused on profitability and legal obligations (Moir, 2001). For instance, this may include engaging in charity work, improving inclusion and diversity, or reevaluating their carbon footprint.

The environmental, social, and governance (ESG) rating of firms provides a quantifiable measure of their CSR or sustainability, which can help market participants—and society at large—assess the risks, ethics, and sustainable impact of a company. ESG performance measurement emerged, among others, in response to the increasing interest among consumers in supporting firms that share their ESG values and the growing recognition among investors of the importance of integrating ESG factors into their decision-making process. The environmental component of ESG consists of the influence of a firm's operations on the environment and natural resources, for instance in terms of CO2 emissions, pollution and waste, and protection of biodiversity and ecosystems. The social component captures the way in which a company interacts with society. Specifically, it focusses on a firm's relationship with the workforce, local communities, and other stakeholders, and it includes their ability to deal with public, political, and labor changes. Lastly, the governance pillar includes a company's internal management, board structures, and the management of decision-making procedures. It encompasses issues such as transparency, reporting, and accountability, as well as board diversity, compensation structures, and shareholder rights (Billio et al., 2021). In general, the concepts of CSR and ESG are closely related, revolving around the advancement of businesses operations and decisions to be more responsible and sustainable. As a result, these terms have often been used interchangeably in the academic literature.

Fundamental theories of CSR

Over the decades, a growing body of research has investigated the relationship between companies' CSR performance and their financial performance. However, existing empirical literature reveals inconsistent results regarding the role of CSR in firm performance, with two conflicting classical theories: the shareholder theory and the stakeholder theory. The former was introduced by Friedman (1970) and posits that firms should focus solely on creating shareholder value through the maximization of corporate profits. From this perspective, various studies illustrate that CSR activities have a negative effect on corporate performance and firm value, and should be regarded as redundant (Aupperle et al., 1985; Jensen, 2001). In contrast, the stakeholder theory put forth by Freeman (1984) emphasizes that corporations need to consider all stakeholders in their business operations, rather than simply focusing on shareholder wealth. These stakeholders include employees, customers, suppliers, management, and investors, each having a certain interest in the activities of the enterprise (Donaldson & Preston, 1995). According to the stakeholder theory, a firm's CSR performance is positively related to its corporate performance. Evidence in favor of this theory suggests that this relationship is, for example, driven by enhanced firm reputation due to active engagement in CSR activities (Miles & Covin, 2000). A better social reputation could increase customer loyalty (Sen et al., 2006), willingness to pay, and retention of employees (Lee & Chen, 2018; Peloza, 2009), which contributes to competitive advantages, sustainable growth, and eventually favors the shareholders of a company. While these two theories are conflicting, they provide an essential theoretical starting point for the current study.

The relationship between CSR and M&A

Mergers and acquisitions (M&As) are pivotal strategic decisions for companies, involving the consolidation of two organizations into a single (new) entity. In contrast to regular corporate investments, M&As entail a corporate restructuring that substantially alters the firms' operational character, affecting numerous stakeholders who need to be allocated in the new entity and who may participate in the M&A process (Deng et al., 2013). An increasing number of studies have examined corporate social responsibility in the context of M&As. Here, most of the research has focused on the impact of CSR on corporate performance, acquisition premiums, the integration process, target choice, and the probability of deal success. For example, Deng et al. (2013) investigate the relation between the acquirer's CSR performance (measured using KLD's CSR ratings) and the M&A process by utilizing a sample of 1,556 U.S. M&As from 1992 to 2007. The authors show that high-CSR acquirers take less time to complete a deal and experience lower deal failure rates. Similarly, Arouri, Gomes, and Pukthuanthong (2019) find that acquirers with higher levels of CSR performance are subject to lower deal completion uncertainty, based on a global sample of 726 M&A deals between

2004 and 2016 and Thomas Reuters' ASSET4 ESG ratings. Gomes (2019) considers a similar dataset and demonstrates that a firm's CSR performance is positively related to the probability of being targeted for a merger or acquisition. This implies that acquirers incorporate CSR performance in their assessment of an appropriate target and suggests that CSR initiatives can provide benefits that are valued by acquirers, such as employee loyalty. In general, CSR is found to facilitate the M&A process. As explained by Gomes and Marsat (2018) in the context of bid premiums, this observation can be attributed to the lower level of firm-specific risk associated with firms that have higher CSR performance, mitigating negative CSR impacts and limiting the degree of information asymmetry.

With respect to financial performance, Deng et al. (2013) also investigate the relation between the acquirer's CSR performance and acquirer cumulative abnormal returns (CARs). Their results demonstrate that acquirers with high CSR performance experience significantly higher M&A announcement returns than low-CSR acquirers, in line with the stakeholder theory. In addition, the authors look beyond short-term effects and find that CSR is positively related to post-merger operating performance and long-term stock returns of the acquirer. Krishnamurti et al. (2019) analyze a sample of 776 Australian M&A deals announced between 2000 and 2016 and likewise discover a positive relationship between the acquirer's CSR initiatives and acquirer CARs, employing the ASSET4 ESG ratings. More recently, Zhang et al. (2022) used the same ESG ratings to conduct an empirical study based on a global sample of 1,310 M&A transactions from 2002 to 2012. Again, the authors present evidence demonstrating that acquirers with stronger pre-announcement CSR practices attain higher announcement returns compared to acquirers with lower CSR involvement. Specifically, a 1% increase in ESG score of the acquirer in the pre-deal year will increase the acquirer CAR by 1.86%. While these findings support the stakeholder theory, other studies provide contradicting evidence. For instance, Yen and André (2019) examine the relationship between acquirers' CSR performance and announcement returns in emerging markets and find no evidence of a significant link. The authors argue that the impact of acquirers' CSR performance relies mostly on cost-benefit considerations of investors. In this case, costs are mostly induced by agency problems that arise from possible over-investment in CSR activities by the acquirer, suggesting that the influence of CSR performance cannot solely be explained by the shareholder or stakeholder theory. Moreover, the findings of Meckl and Theuerkorn (2015) illustrate that acquirers' CSR negatively influences acquirer announcement returns, implying that CSR practices destroy shareholder wealth. The authors posit that this link can be attributed to investors' expectations of higher expenditures by high-CSR acquirers during the M&A transaction to maintain their CSR profile. This observation is consistent with the shareholder theory, as well as the overinvestment hypothesis (Barnea & Rubin, 2010). According to this

theory, firms with high CSR engagement may be prone to overinvesting in socially responsible initiatives at the expense of core business operations and financial performance.

Whereas most of the previous studies focus on socially responsible practices of acquirers, Aktas et al. (2011) consider the impact of the target's CSR performance on acquirer announcement returns. The authors examine an international sample of 129 M&A transactions over the period 1997-2007, employing Innovest's IVA ratings (7-point rating scale) as a proxy for firms' social and environmental performance. Their findings show that acquirer announcement returns are positively affected by the target's environmental and social performance, indicating that the market renumerates the acquirer for making socially responsible investments by acquiring a "good" target. According to the authors, acquirers gain valuable knowledge and insights from the CSR practices of the target company, which is even more pronounced when the CSR performance of the target is superior to that of the acquirer. Similarly, the research of Guidi et al. (2020) explores the impact of socially irresponsible activities of targets. Specifically, the authors investigate the market reaction to an acquisition of firms operating in a "sin industry," such as the tobacco or gambling industries. The results demonstrate that a sin acquisition destroys value for acquirer shareholders compared to acquiring a non-sin target, implying that investors disapprove social irresponsible investments. Furthermore, akin to Aktas et al. (2011), Cho et al. (2021) assess the effect of the relative CSR performance of merging firms on target shareholder value by incorporating the difference in CSR score (target minus acquirer) as independent variable. The authors find that deals with superior CSR performance of the target compared to the acquirer tend to boost target shareholder wealth, and that this effect is stronger when the governance quality of the acquirer is high. Likewise, Chen et al. (2022) study a large sample of U.S. M&As and conclude that the CSR spread between the target and acquirer positively affects acquirer shareholder wealth, which the authors attribute to acquirer's learning from the CSR practices and experiences of the target. Cho et al. (2021) argue that market participants expect higher premiums for a target with a better CSR profile—especially in the case of well-governed acquirers—and therefore the M&A creates more value. Along the same lines, the findings of Tampakoudis and Anagnostopoulou (2020) demonstrate that the takeover of a target with superior ESG performance relative to the acquirer generally enhances the (post-deal) market value of the acquirer. Moreover, this increase in market value associates with an increase in post-deal ESG performance of the acquirer. Overall, these outcomes shows that a strong CSR performance of a target firm generates shareholder wealth, conform to the stakeholder theory. Taken together, the discussed empirical literature illustrates that M&A is a critical avenue through which firms' CSR profiles affect shareholder value.

CSR and corporate performance during COVID-19

Despite the mounting evidence of the significance of CSR in the M&A context, the literature has to date largely overlooked the impact of the COVID-19 crisis on the relationship between CSR or ESG factors and M&A outcomes. The global break out of the coronavirus in early 2020 has led to a severe economic crisis worldwide, with a significant decrease in economic activity due to the implementation of restrictive measures by governments to prevent COVID-19 from spreading which induced a sharp drop in revenues of firms. The COVID-19 crisis is considered as a unique crisis due to its exogenous origin and different governmental responses, in the form of lockdowns and financial support for companies (Baker et al., 2020; Borio, 2020). Furthermore, the pandemic drastically changed the way in which business operate, for example requiring investments in remote work tools (Donthu & Gustafson, 2020). In such unique times, market participants may view investments in CSR initiatives differently.

The relationship between firms' CSR performance and their financial performance in times of an economic crisis has already received some attention in the literature. Lins et al. (2017) examine the role of firms' CSR engagement during the global financial crisis of 2008-2009 based on a sample from 2007 to 2013. Their results show that during this crisis, firms with higher CSR performance experienced greater stock returns compared to firms with lower CSR performance. Besides, high-CSR firms were found to have stronger sales growth, profitability, and employee productivity throughout the financial crisis. In the post-crisis period, the excess returns earned by high-CSR firms disappeared. These findings imply that CSR could be a channel through which the effects of macroeconomic shocks are mitigated and can thus be seen as an important consideration for market participants in their investment decisions during crises. Investigating the same crisis, Hoang et al. (2020) analyze the U.S. stock market over the period 2007-2016. The authors conclude that the stock market's response to greater environmental transparency and performance is positive in times of economic growth, whereas it is negative during financial downturns. This indicates that investors' perspective on socially responsible (environmental) initiatives of firms varies across economic conditions. Although these findings seem to contradict the results of Lins et al. (2017), the difference is likely due to the use of specific environmental indicators by Hoang et al. (2020) rather than overall CSR performance. Along similar lines, the study of Bansal et al. (2022) demonstrates that socially responsible firms exhibit inferior stock market performance compared to less socially responsible firms during economic downturns. However, high-CSR firms outperform low-CSR firms during good economic times. The authors argue that market participants value CSR commitment—which can be seen as a luxury good—differently in challenging economic periods as they experience more financial pressure, leading to a devaluation of CSR factors in their investment decisions. Consequently, the performance gap between high- and low-CSR firms depends on the prevailing economic environment, conform to Hoang et al. (2020).

Regarding the COVID-19 pandemic, numerous studies have explored the links between CSR and firm performance during this novel crisis. Based on Chinese stock market data, Broadstock et al. (2021) find that high-ESG portfolios generally outperformed low-ESG portfolios during COVID-19, suggesting that investors may perceive ESG performance as a signal of resilience against downside risk. Similarly, Ding et al. (2021) study the relationship between pre-pandemic firm characteristics (including CSR) and global stock price reactions to the coronavirus pandemic. Their results demonstrate that the share price of companies with higher CSR performance was more resistant to the pandemic-induced stock market drop, illustrating the importance of strong relations with stakeholders—which tend to be reinforced by CSR—to ensure support in times of crisis. Focusing on the environmental and social (ES) components of ESG, Albuquerque et al. (2020) examine the same market drop in the U.S. context using a difference-in-differences analysis. The authors demonstrate that during the first quarter of 2020, stocks with high ES performance experienced significantly greater stock returns, reduced return volatility, and larger operational profitability, which they attribute to greater customer and investor loyalty. These empirical observations are in line with the conjecture of He and Harris (2020) that COVID-19 has raised consumers' expectations on CSR. In particular, social inequality, inefficient governance, and the climate crisis have become more evident during the pandemic (Adams-Prassl et al., 2020; He & Harris, 2020; Jebran & Chen, 2021). In turn, this may have altered market participants' views on CSR activities of firms, given both the philanthropic (i.e., contribution to society) and financial considerations (i.e., potentially superior long-term returns). Addressing a particular aspect of CSR, the recent study of Shan and Tang (2023) highlights the value of employee satisfaction during the COVID-19 crisis. Specifically, based on a sample publicly listed Chinese firms, the authors demonstrate that companies with greater pre-crisis employee satisfaction levels were more resilient the COVID-19 market shock. After the breakout of the pandemic, this outperformance endured for several months and was thus not immediately corrected. The results suggest that in times of economic turmoil, the value of employee satisfaction—in the form of more involved and motivated employees—is recognized more by investors. Overall, these studies emphasize the CSR-related firm characteristics that contribute to resilience during sudden economic downturns, and in particular the COVID-19 crisis. On the contrary, Bae et al. (2021) find no significant relation between CSR and stock returns during the pandemic and conclude that CSR cannot safeguard shareholder value in times of a crisis. The study of Garel and Petit-Romec (2020), in which a sample of French companies is utilized, also shows that CSR performance was not significantly associated with stock returns during COVID-19 crisis. Similarly, Demers et al. (2021) illustrate that high-ESG firms did not experience greater stock returns compared to low-ESG firms throughout the pandemic.

In the context of M&As, Tampakoudis et al. (2021) are the first to investigate the impact of ESG performance on shareholder value before and during the coronavirus crisis. The authors consider a sample of 889 M&A deals by U.S. firms announced between 1 January 2018 and 31 July 2020. Their results show a negative effect of acquirers' ESG performance on acquirers' shareholder wealth (measured by the CAR in a window around deal announcement) based on the entire sample period. This negative effect was found to be significantly amplified during the COVID-19 crisis, suggesting that market participants assigned different values to the ESG initiatives of acquirers compared to the period prior to COVID-19. The authors point out that in times of economic turmoil, investors perceive the CSR practices of acquiring firms as too costly relative to their potential benefits, consistent with the overinvestment hypothesis. The findings indicate that instead of allocating their resources to ESG activities, firms engaging in M&As should, among others, focus on safeguarding financial liquidity and transforming their business model to succeed in the new environment. Together with the previously discussed papers, the study of Tampakoudis et al. (2021) highlights the ramifications of the COVID-19 pandemic for shareholders' outlook on CSR initiatives of firms, and more specifically sheds novel light on this in the market for corporate control.

2.2 Hypothesis development

Next, this section develops hypotheses based on the existing literature to investigate the relationship between the ESG performance of merging firms and M&A announcement returns, before and during COVID-19. In accordance with the stakeholder theory of Freeman (1984), the first hypothesis builds on the premise that CSR engagement of firms creates value for shareholders. Although empirical evidence is available for both fundamental theories of CSR, the stakeholder theory appears to be more dominant in the literature when examining good economic times (e.g., Bansal et al., 2022; Hoang et al., 2020). As the sample period employed in this study (i.e., from 2010 to 2022) spans a relatively long period of strong economic expansion—from the aftermath of the financial crisis to the onset of the COVID-19 pandemic—it is reasonable to anticipate an overall positive relationship between CSR and acquirer announcement returns. Given the broad and qualitative nature of the concept of CSR, this study focuses on its environmental, social, and governance dimensions. Accordingly, for aggregate or overall ESG performance the following hypothesis is formulated:

Hypothesis 1a: The ESG performance of acquiring firms positively influences acquirer announcement returns.

Besides acquirer ESG performance, this study takes into consideration the wealth effects of ESG performance of the target firm. As discussed in Section 2.1, the literature provides ample evidence that CSR practices of targets affect M&A outcomes, such as acquisition

premiums (Cho et al., 2021), CSR-related knowledge and resource transfer (Tampakoudis & Anagnostopoulou, 2020), and shareholder value (Aktas et al., 2011; Guidi et al., 2019). Moreover, previous studies have emphasized that the M&A value effects of CSR are often a function of both the target's and acquirer's CSR performance. For instance, Cho et al. (2021) and Chen et al. (2022) present evidence indicating that shareholder value (in the form of M&A announcement returns) is positively related to the CSR performance differential between the target and acquiring firm. As stressed by the authors, this positive effect is potentially attributable to the learning process associated with the M&A deals. In particular, M&As provide acquirers with direct access to the resources and capabilities embedded in the target firm, which can be deployed to boost the acquirer's competitive position. Theoretical and empirical inquiries have established that the potential for capability transfer and learning in M&As is especially significant when the merging firms possess distinct yet complementary resource endowments (e.g., Capron et al., 1998; Harrison et al., 1991). In the context of CSR, this implies that the M&A learning process is most effective when the CSR scores of the merging firms are more dispersed. Indeed, as shown by Tampakoudis and Anagnostopoulou (2020), the takeover of a target with superior ESG performance compared to the acquirer tends to result in an improvement in the acquirer's ESG performance, which is accompanied by an increase in the acquirer's market value. Therefore, the market reaction to deal announcement is likely to be contingent upon the target's ESG performance. Accordingly, the relationship between ESG and M&A announcement returns—and the impact of COVID-19 on this relation—is investigated for both absolute and relative target ESG performance. By doing so, this study responds to the call of Tampakoudis et al. (2021) for future studies to also consider the effects of target firms' ESG commitment on shareholder value. The corresponding hypotheses are stated as follows:

Hypothesis 1b: The ESG performance of target firms positively influences acquirer announcement returns.

Hypothesis 1c: The ESG performance of target firms relative to acquiring firms positively influences acquirer announcement returns.

Furthermore, it is expected that the effects examined in hypotheses 1a, 1b, and 1c are impacted by the COVID-19 crisis.[1] During an economic recession, companies often adopt cost-cutting measures to reduce expenses that are not crucial for their main business operations,

[1] On May 11, 2023, the World Health Organization (WHO) declared an end to COVID-19 as a public health emergency (WHO, 2023). Although the COVID-19 pandemic is not officially over yet, the crisis nature of the pandemic has thus receded. Therefore, COVID-19 will be referred to as a past event in this paper.

which can include scaling back ESG activities. As highlighted by Donthu and Gustafson (2020), the COVID-19 pandemic has caused significant economic disruptions and led to drastic changes in business practices. For instance, many companies faced serious short-term challenges (e.g., related to the supply chain, the workforce, or consumer demand) and were forced to rethink their value chains, operating models, and overall business strategies to survive in the new economic environment. Consequently, it can be postulated that during COVID-19, acquirer shareholders reacted more negatively to an M&A deal announcement when the acquiring firm had a higher level of engagement in ESG activities. Namely, investors will typically expect higher expenditures by high-ESG acquirers during the M&A transaction to sustain their ESG commitment (Meckl & Theuerkorn, 2015), thereby reducing financial flexibility, which is especially undesirable during periods of economic uncertainty (Bansal et al., 2022; Hoang et al., 2020). Thus, acquirer ESG initiatives are expected to destroy shareholder wealth during the COVID-19 crisis, in line with the shareholder theory and the overinvestment hypothesis (Barnea & Rubin, 2010). The prior study of Yen and André (2019) demonstrates that market participants weigh the costs and benefits when evaluating ESG investments in the M&A setting. The reasoning outlined above implies that COVID-19 has significantly altered this cost-benefit analysis with respect to the acquirer's ESG activities. The conjecture that the COVID-19 crisis negatively impacted the link between acquirers' ESG performance and shareholder value has recently been verified empirically by Tampakoudis et al. (2021) in the U.S. context. Contrarily, based on the concepts of resource transfer and learning by the acquirer (as discussed above), as well as the resource-based view reasoning of Tampakoudis and Anagnostopoulou (2020), it is expected that investors attached greater value to targets' ESG performance during COVID-19. This is anticipated because in times of economic turmoil, the opportunities for the acquirer to develop new or reinforce existing CSR-related capabilities through the transfer of (complementary) resources embedded in the target firm will be more valuable. By leveraging the targets' ESG capabilities, the acquirer can improve its ESG performance and boost its competitive position and long-term resilience, at the benefit of shareholders, without requiring (substantial) additional investments. This potential is particularly pronounced when the target's ESG performance is strong in comparison to that of the acquirer. These presented notions are expressed in the following three hypotheses:

Hypothesis 2a: The COVID-19 pandemic had a negative impact on the relationship between the acquirer's ESG performance and acquirer announcement returns.

Hypothesis 2b: The COVID-19 pandemic had a positive impact on the relationship between the target's ESG performance and acquirer announcement returns.

Hypothesis 2c: The COVID-19 pandemic had a positive impact on the relationship between the target's relative ESG performance and acquirer announcement returns.

Literature demonstrates that the cultural distance between merging firms impacts the (post-deal) M&A integration process and M&A performance. Specifically, cultural distance is found to hamper the M&A integration process due to challenges in effective communication and efficient reorganization arising from the cultural differences between the acquiring and target firm (Morosini et al., 1998; Stahl & Voigt, 2008; Weber et al., 2009). Moreover, these studies highlight the increased barriers to resource and capability transfer. Country-level cultural distance reflects the extent to which norms and values differ between two nations. In the M&A context, it may be challenging for acquiring firms to completely apprehend norms and values of targets from culturally distant countries, which are also partially ingrained in their CSR strategy and practices. Campbell et al. (2012) demonstrate that cultural disparity diminishes perceptions of similarity and compassionate actions, leading acquirers to underestimate the actual value of CSR. Utilizing a sample of 252 cross-border acquisitions, Qiao and Wu (2019) conclude that targets' CSR performance is valued less by acquiring firms when cultural distance between the merging firms is high. In particular, the authors show that when the target's CSR performance increases by one unit, acquirers are inclined to pay a 0.2-0.5% higher acquisition premium. However, this positive effect for socially engaged targets is reduced by the level of cultural distance between the firms. These findings imply a negative moderating role of cultural distance in the relationship between ESG and M&A outcomes, which is partly explained by increased challenges in the M&A integration process.

With respect to COVID-19, the pandemic has significantly altered the way in which firms operate with important ramifications for the effects of cultural distance in a corporate setting. Many firms have established remote work practices and utilized new online communication technologies, which can help mitigate the difficulties arising from cultural distance. Moreover, the global outbreak of the pandemic has impact countries worldwide, potentially fostering an enhanced understanding and collaboration among countries to collectively overcome the challenges caused by COVID-19. Contrarily, restrictions imposed to combat the spread of the novel coronavirus differed across countries, which might have increased the difficulties posed by cultural distance. For example, some governments immediately developed strict policies against the pandemic while others postponed imposing restrictions due to underestimation of the virus. Also, travel restrictions reduced opportunities for firms to engage in face-to-face interactions and physical contact. In this light, during COVID-19 it became more challenging for merging firms to build a relationship and establish trust, potentially adding complexity to the post-deal integration process and, among others, the transfer of capabilities and learning by

the acquirer. Building on the work demonstrating the relevance of cultural distance in the context of M&A, CSR, and COVID-19, this study investigates how cultural distance between merging firms moderates the effect of ESG on M&A announcement returns during the COVID-19 pandemic. The corresponding hypothesis is defined as follows:

Hypothesis 3: Cultural distance between the merging firms moderates the impact of COVID-19 on the relationship between ESG performance and acquirer announcement returns.

Lastly, differences across the individual ESG components are assessed. Among others, the studies of Cho et al. (2021) and Barros et al. (2022) focus on the individual ESG pillars to identify which dimensions generate shareholder value in the context of M&A. Because each ESG dimension is related to distinct costs and benefits for a company, each dimension might affect investors' views differently. Tampakoudis et al. (2021) only consider the impact of the overall ESG score and emphasize that this hampers their ability to explain the exact mechanisms underlying the impact of ESG. This limitation is addressed by examining the separate pillars of ESG, such that it can be assessed whether investors give priority towards a particular ESG components in times of crisis. For instance, as illustrated before, the employer-employee relationship is part of the social pillar of the overall ESG construct. During the unique COVID-19 crisis, this social element became more evident and important due to increased demand for support, loyalty, and trust from either side, as demonstrated by Shan and Thang (2020). In contrast, other aspects of ESG may receive less attention or be devalued during an economic meltdown. For example, environmental investments were negatively valued by market participants during the 2008-2009 financial crisis (Hoang et al., 2020), stressing that firms should prioritize their resources to activities supporting their resilience to economic downturn and environmental investments are seen as an unnecessary burden. Additionally, corporate governance performance of merging firms tends to affect the market reaction to M&A announcements (Masulis et al., 2007; Wang & Xie, 2009). However, the financial and economic disruptions caused by COVID-19 might have altered investors' views on corporate governance. In particular, a firm's governance strategy significantly affects the way in which it deals with a period of crisis such as COVID-19 (Bauer et al., 2022). In keeping with these findings and recommendations of prior research (e.g., Tampakoudis et al., 2021), the role of environmental, social, and governance performance is disentangled. To conclude, the last hypothesis considered in this study is stated as follows:

Hypothesis 4: The impact of COVID-19 on the relationship between ESG performance and acquirer announcement returns varies across the individual ESG dimensions.

3 Data

The following section consists of three subsections describing the required data for the empirical analysis used to answer the research question. Section 3.1 provides an overview of the employed data sources and the sample selection procedure. Section 3.2 outlines the dependent and independent variables as well as control variables used in the analysis. Lastly, Section 3.3 represents the descriptive statistics of the sample data and variables.

3.1 Sample selection

To answer the abovementioned research question, this analysis relies on several data sources. First, the M&A database of Refinitiv Eikon is employed to obtain a global sample of M&A transactions. This database is widely exploited in the finance literature because of its extensive worldwide transaction history, starting from 1970. While several prior studies have extracted their deal data from Zephyr, this database is more orientated towards European transactions and is thus less suitable for an international study. The sample period for this study has been set to January 1, 2010 - December 31, 2022. The starting date is determined to exclude the financial crisis of 2008-2009. The ending date is set to the last day of the most recent full calendar year, in order to capture an as large as possible COVID-19 period. In line with related M&A studies (e.g., Deng et al., 2013; Tampakoudis et al., 2021; Yen & André, 2019), the following criteria are imposed on the transactions:

1. The status of the M&A deal is completed
2. The M&A deal is defined as a merger or acquisition (e.g., buyouts, share repurchases, and recapitalizations are excluded)
3. The deal value is greater than $1 million
4. The acquirer is a public company
5. Both the acquirer and target do not operate in the financial industry[2] (i.e., companies with SIC code between 6000-6799 are excluded from the sample)
6. The acquirer acquirers more than 50% of the target's publicly traded shares and initially hold less than 50% of the target firm before the acquisition.

Applying these criteria results in an initial sample of 34,396 M&A transactions (see Table 1).

Second, to analyze the impact of ESG performance on announcement returns I derive ESG scores from the Refinitiv ESG Scores database. This database is available through Datastream for over 12,000 firms globally with a history dating back to 2002 (Refinitiv, 2022).

[2] Firms operating in the financial industry are subject to a high degree of regulation and atypical financial structure which consequently affects abnormal returns (Deng et al., 2013).

For the analysis, firms' overall ESG scores are extracted which are calculated based on publicly available company information including annual reports, stock exchange filings, and company websites. Refinitiv defines ten ESG categories (e.g., human rights, emissions, and management) that underlie the individual environmental, social, and governance pillars (see Appendix A*)*. These three pillars are aggregated into the overall ESG score based on a weighted sum of its category scores, with industry-specific weights. For example, the social pillar contains the categories workforce, human rights, community, and product responsibility with underlying themes such as data privacy and working conditions. This study also investigates each of the three ESG pillars separately, which requires the collection of the individual environmental scores, social scores, and governance scores. The Refinitiv ESG scores range from 0 to 100, thereby enabling a more detailed and precise review of changes in scores than alternative measures such as KLD Stats, MSCI ESG IVA and ESG Ratings, or Sustainalytics ESG Risk Ratings. In addition, the methodology of Refinitiv minimizes company size and transparency bias in the ESG scores (Refinitiv, 2022), which facilitates analysis across different countries.

Lastly, required firm-level financials are also obtained from Refinitiv through Datastream. In particular, I derive stock prices to measure the market reaction to a deal announcement, which indicates the importance of the acquiring firm being public (see criteria 4). Financial information used to construct the firm-specific control variables (see Section 3.2) is derived from the Refinitiv Worldscope Fundamentals database, which provides detailed financial

Table 1: Sample selection criteria

Criteria	**Number of M&A transactions**
Initial sample	34,396
Announcement date: 01/01/2010 to 31/12/2022	
Deal status: Completed and unconditional	
Deal value: Greater than $1 million	
Percentage of shares acquired: Greater than 50%	
Deal type: Mergers, acquisitions	
Public status acquirer: Public	
Industry: Exclude firms from financial industry (SIC 6000-6799)	
Exclude firms with missing or unknown Datastream code	18,818
Exclude internal deals	18,808
Exclude deals with missing acquirer or target ESG scores	457
Exclude deals with missing acquirer or target financial data	418
Exclude deals with no observations in estimation window	416
Total sample	**416**

Note. This table reports the restrictions imposed on the M&A data obtained from Refinitiv to arrive at the sample used in the empirical analysis. In each row, the second column documents the number of M&A transactions in the sample after applying the restriction listed in that row.

statement data of U.S. and non-U.S. companies dating back to 1985. For deal-specific control variables, the Eikon M&A database is utilized.

To arrive at the final sample of M&A transactions used in the empirical analysis, it is necessary to match the different datasets and omit transactions for which data is missing. As this study examines both acquiring and target firms, deals with missing ESG scores or financial data for the acquirer or target are excluded from the sample. This restriction leads to a considerable decrease in sample size, because most of the targets in the initial sample are private companies and thus lack publicly available data. The imposed criteria and matching process are detailed in Table 1, in which the number of transactions in each row represents the sample size after applying the corresponding restriction of that row. The final sample is comprised of 416 M&A transactions, in line with the sample size of related studies (Aktas et al., 2011; Deng et al., 2013; Tampakoudis et al., 2021).

Descriptive statistics

Table 2 summarizes the distribution of the sample of 416 M&A deals by announcement year, industry, and country. Over the years, a slight increase in deal frequency is observed, with peaks in 2018, 2019, and 2021. The companies involved in the transactions are dispersed across 39 countries and 11 industries. Most of the acquiring and target firms operate in the Energy & Power industry, followed by High Technology and Industrials. The U.S. is the most represented country in the sample, with the U.S. being the home and host country in 53% and 62% of the deals, respectively. Other countries that have a considerable share in the sample

Table 2: Distribution of M&A deals

Year	*N*	Industry	N_{Acq}	N_{Tar}	Country	N_{Acq}	N_{Tar}
2010	16	Consumer Products & Services	28	27	Australia	22	35
2011	20	Consumer Staples	22	14	Brazil	5	5
2012	10	Energy & Power	76	85	Canada	39	35
2013	7	Healthcare	51	47	France	15	3
2014	29	High Technology	63	75	Germany	10	0
2015	32	Industrials	57	56	Japan	19	10
2016	45	Materials	56	51	Netherlands	5	2
2017	43	Media & Entertainment	22	24	United Kingdom	30	32
2018	59	Real Estate	2	1	United States	221	256
2019	52	Retail	17	18	Other	50	38
2020	34	Telecommunications	22	18			
2021	51						
2022	18						
		Domestic deals	67.5%		Intra-industry deals	73.8%	
		Cross-border deals	32.5%		Cross-industry deals	26.2%	

Note. This table provides the sample distribution for acquiring and target companies by announcement year, major industry and country of registration. The sample consists of 416 M&A transactions. *N* denotes the number of deals, N_{Acq} denotes the number of acquiring firms, and N_{Tar} the number of target firms.

are Canada, United Kingdom, and Australia. In addition, the majority of M&As take place between two firms from the same country (68% domestic deals) and within the same industry (74% intra-industry deals).

3.2 Variables

Dependent and independent variables

To investigate the shareholder value effect of ESG during COVID-19, this study utilizes the cumulative abnormal return (CAR) of the acquiring firm over a period surrounding the M&A announcement as dependent variable. Following the M&A literature, a three-day, seven-day, and eleven-day window around the M&A announcement is examined. The abnormal returns are determined based on the event study methodology of MacKinlay (1997), which is exhaustively described in Section 4. The main independent variable in the empirical analysis is the overall ESG score of the acquiring and target firm. Besides, the relative ESG performance of the merging firms (*Rel_ESG*) is used as independent variable and is determined by subtracting the ESG score of the acquirer from that of the target. Additionally, the separate scores for each of the three ESG components are considered, to account for the idiosyncratic nature of the distinct ESG dimensions. The employed ESG scores correspond to the (fiscal) year-end prior to deal announcement, to mitigate potential confounding effects due to the M&A event (Tampakoudis et al., 2021). Furthermore, to assess the influence of the COVID-19 pandemic, a dummy variable (*dCovid*) is created that equals one if the M&A deal announcement took place after March 11, 2020, which WHO declared as the official start date of the global pandemic (Tampakoudis et al., 2021). This results in 102 M&A deals announced during the COVID-19 pandemic, which constitutes 25% of the total sample.

Lastly, this study evaluates to what extent cultural distance between acquiring and target firms moderates the relation between ESG performance and acquirer announcement returns before and during COVID-19. Hofstede (2001) states that cultural distance represents differences in shared norms and values between two nations, which reflects variations in business environments. Following Hofstede (1984), four main cultural characteristics are used to quantify cultural distance, namely power distance, individualism, masculinity, and uncertainty avoidance. The scores of each country in the sample in these four dimensions are obtained from the scholarly web page of Hofstede[3]. Subsequently, the method developed by Kogut and Singh (1988)—which is utilized by the majority of prior studies—is employed to calculate the cultural distance between two nations and is formulated as follows:

$$\text{Cultural Distance}_{ij} = \sum_{k=1}^{4} \left\{ \frac{(I_{ki} - I_{kj})^2}{V_k} \right\} / 4 \quad (1)$$

[3] https://hofstede-insights.com

where I_{ki} denotes the score of nation *i* in dimension *k* and V_k represents the variance of the scores in the k^{th} dimension. This variable is referred to as *Cul_dis* in the regression models.

Control variables

Existing empirical literature indicates that several firm characteristics and deal features affect M&A announcement returns. Accordingly, such variables should be controlled for in the analysis to isolate the impact of ESG performance on acquirer shareholder value. Following related studies (Chen et al., 2022; Yen & André, 2019), firm size, leverage, Tobin's Q, and return on assets (ROA) of the merging firms are incorporated as firm-specific control variables. In addition, liquidity of both parties is integrated conform to Tampakoudis et al. (2021). As controls for deal characteristics, the empirical analysis includes deal value, relative deal value and three dummy variables for all-cash, cross-border, and intra-industry deals. All firm-specific control variables are measured at fiscal year-end preceding the M&A announcement to mitigate potential endogeneity issues. Furthermore, year and industry fixed effects are included as dummy variables to account for year- and industry-specific variation that is not attributed to the other variables. In addition, the entire analysis is re-estimated excluding (year) fixed effects. This is of relevance because the limited number of observations could potentially diminish the statistical power of the models when including a large number of (dummy) variables (Draper & Smith, 1998), with potential overfitting (Harrell, 2001). Besides, a distinct COVID-19 effect may be more difficult to identify when the model already includes dummies for the years of the pandemic. Table 3 presents an overview of all control variables, their method of calculation, and symbol used in the empirical models. The following paragraphs elaborate on the motivation for the inclusion of these firm- and deal-level control variables.

Firm-specific control variables

The study of Moeller et al. (2004) and Masulis et al. (2007) provides evidence suggesting that acquirers' firm size has a negative impact on acquirer announcement returns. The authors point out that overpaying for a target is more pronounced for larger acquirers, thereby destroying acquirer shareholder value. Also, targets' firm size affects acquirer CAR since acquirers are more likely to overestimate synergies of larger targets and as a result overpay for the deal (Loderer & Martin, 1990). Besides, incorporating firm size of both firms in the analysis helps mitigating endogeneity issues with respect to ESG performance. Firm size and ESG performance are positively related due to greater organizational conspicuity of larger firms, generating more public pressure and social constraints (Bowen, 2002). Moreover, larger firms often have additional resources, enabling an (effective) implementation of ESG practices (Galani et al., 2012). The natural logarithm of firms' total assets is used to determine firm size.

Table 3: Set of control variables

Variable	Variable name	Measure
Firm controls		
Size	Acq(Tar)_size	Natural logarithm of total assets
Leverage	Acq(Tar)_leverage	Total debt over total assets
Tobin's Q	Acq(Tar)_TobinsQ	Market value over total shareholder's equity
Profitability	Acq(Tar)_ROA	Operating income before depreciation over book value of assets
Liquidity	Acq(Tar)_liquidity	Current assets over current liabilities
Deal controls		
Deal size	Deal_size	Natural logaritm of disclosed deal value
Relative deal size	Rel_deal_size	Disclosed deal value over acquirer's market value
Cash	dCash	Dummy variable that equals 1 if the deal is 100% financed by cash
Industry related	dIndustry_related	Dummy variable that equals 1 if acquirer and target operate in related industries (based on 2-digit SIC)
Cross-border	dCross_border	Dummy variable that equals 1 if acquirer and target originate from different countries
Fixed effects		
Industry	Industry	Dummy for macro-industry of acquirer (based on 2-digit SIC)
Year	Year	Dummy for announcement year

Note. This table provides an overview of all control variables used in the empirical analysis with corresponding variable name in the empirical model and employed measure. Acq and Tar refer to acquirer and target, respectively.

Besides, according to the majority of M&A literature, leverage of both merging firms also has explanatory power for M&A announcement returns. Among others, Jensen (1989) and Masulis et al. (2007) argue that increasing leverage results in greater obligations to creditors and thereby reduces the amount of free cash flows and restricts managerial discretion. Consequently, leverage is assumed to be positively correlated with acquirer CAR. In the analysis, leverage is measured by taking the ratio of total debt to total assets, as Tampakoudis et al. (2021). Similarly, prior studies show significant differences in acquirer announcement returns between high and low Tobin's Q firms. Lang et al. (1989) and Servaes (1991) illustrate that acquiring firms with high Tobin's Q experience substantially higher announcement returns compared to low Tobin's Q acquirers. Contrarily, Moeller et al. (2004) show a negative relation between acquirer Tobin's Q and acquirer CAR. According to Lang et al. (1989), Tobin's Q is employed as a measure for managerial performance (i.e., quality of management), which is expected to generate superior M&A outcomes. Moreover, Tobin's Q reflects (investors' view on) the growth opportunities of a company (Aivazian et al., 2005), which should be an important consideration for target selection. Given the prevalence of the variable in the literature (despite inconclusive findings), Tobin's Q is included as control variable in this study and determined by dividing a firm's market value by its book value of total assets.

The final two firm-specific controls are profitability and liquidity. Previous research has established that firms' profitability is an important determinant of value creation in M&A transactions (e.g., Masulis et al., 2007). Higher levels of profitability for the acquirer imply more financial flexibility, which can help acquirer successfully navigate the post-M&A period and therefore create higher announcement returns. Similarly, more profitable targets are expected to generate more acquirer shareholder wealth. Furthermore, most studies indicates that a firm's profitability is positively correlated to its ESG performance. Among others, Waddock and Graves (1997) and Campbell (2007) argue that companies with higher profit levels tend to have more resources available to spend on ESG activities, in line with the financial flexibility argument. To control for the effects of profitability on announcement returns and eliminate endogeneity issues regarding ESG performance, profitability is incorporated in the regression analysis using ROA. This measure is widely used in the finance literature as proxy for profitability and is defined as the ratio of operating income before depreciation over the book value of assets. Lastly, liquidity is measure using the current ratio, which is defined as current assets over current liabilities (Tampakoudis et al., 2021). As highlighted by Hu et al. (2020), liquidity influences several aspects of the M&A process. Specifically, greater levels of liquidity within a firm enhance the probability of acting as an acquirer and contributes to a higher likelihood of overpaying for a target, thereby having a negative impact on acquirer CAR. Moreover, the level of liquidity affects firms' strategic choices regarding ESG initiatives in a similar way as leverage and profitability (Chan et al., 2017; Li et al., 2012).

Deal-specific control variables

In addition to the firm-specific control variables, the empirical analysis includes various deal characteristics. First, prior studies demonstrate that higher deal values in M&As are negatively related to acquirer announcement returns due to increased risk of overpayment and managerial overconfidence in larger deals (Loderer & Martin, 1990; Moeller et al., 2004). Besides, this destruction of acquirer shareholder value is attributable to increased complexities in the post-merger integration phase that might hamper the merging firms' ability to benefit from synergies (Alexandridis et al., 2013). Following previous research, deal value is constructed as the natural logarithm of the total consideration paid by the acquirer excluding fees and expenses. In addition, Moeller et al. (2004) emphasizes that besides absolute deal value, the deal value relative to acquirers' market value (ratio) is an important and unique determinant of M&A announcement returns. Here, the authors find that the negative relationship observed for absolute deal value changes to a positive relationship for the relative deal value. Accordingly, this factor is also included in the empirical analysis.

Furthermore, three deal-level dummy variables are considered. First, to control for the effect of the payment method in M&As, a dummy variable is constructed that equals one if the

deal is exclusively financed by cash and zero otherwise. According to Datta et al. (1992) and Myers and Maljuf (1984), market participants have a more negative view on stock-financed M&As than on cash-financed deals. The rationale behind this negative impact is that acquirers will offer stocks if they view their stock as overpriced. Along the same lines, previous M&A literature (e.g., Alexandridis et al., 2010; Andrade et al., 2001; Travlos, 1987) demonstrates that greater acquirer announcement returns are generated in cash financing or mixed payments compared to an all-stock payment. Second, a dummy variable for industry relatedness is created that equals one if both merging firms operate in the same macro industry (based on two-digit SIC). Empirical evidence indicates that acquirer announcement returns are significantly higher for intra-industry deals compared to diversifying deals. This could be related to higher levels of ambiguity in cross-industry deals, as acquirers have less expertise and experience regarding future expectations and risks of the new industry (Masulis et al., 2007; Morck et al., 1990). Lastly, a dummy variable for cross-border deals is included to control for performance differences between cross-border and domestic transactions. Following Aktas et al. (2011) and Arouri et al. (2019), this dummy variable equals one if the target and acquirer are headquartered in different countries. The findings of Moeller and Schlingemann (2005) suggest that acquirer announcement returns are substantial lower for cross-border deals compared to domestic deals. This negative impact of cross-border deals is partially because of cultural and social differences between the merging firms, which might complicate transaction procedures. Thus, whether the M&A transaction is cross-border or domestic affects investors' response to an M&A announcement.[4]

3.3 Summary statistics

Table 4 provides summary statistics of the dependent, independent, and control variables employed in the empirical analysis. To reduce the impact of extreme values in the data on the model estimates, all continuous variables are winsorized at the 1% and 99% level (i.e., CARs, firm-level controls, and the two deal value variables), consistent with the study of Tampakoudis et al. (2021). These outliers are substituted with the 1st and 99th percentiles values, thus are not removed from the sample.

The first three rows of Table 4 show that the average cumulative abnormal returns of the acquiring firms are -1.1%, -1.4%, and -1.3% for the three-, seven-, and eleven-day event window, respectively. The observed negative mean CARs are in accordance with the findings of Aktas et al. (2011) and Tampakoudis et al. (2021) indicate that on average the M&A events

[4] Regarding deal-specific variables, the literature also suggests including a dummy variable for hostile deals to account for differences between hostile and friendly acquisitions (Martynova and Renneboog, 2006; Servaes, 1991). However, the entire sample comprises friendly M&As which eliminates the necessity to include this variable.

Table 4: Summary statistics

Variable	*N*	Mean	SD	Minimum	Median	Maximum
Dependent variables						
CAR [-1,1]	416	-0.011	0.078	-0.226	-0.009	0.211
CAR [-3,3]	416	-0.014	0.085	-0.278	-0.009	0.227
CAR [-5,5]	416	-0.013	0.093	-0.346	-0.014	0.550
Independent variables						
Acq_ESG	416	51.805	22.510	0	52.760	93.490
Acq_E	416	45.385	29.360	0	48.300	96.590
Acq_S	416	56.041	23.742	0	60.115	97.880
Acq_G	416	53.214	25.016	0	52.550	97.790
Tar_ESG	416	34.771	20.734	0	32.270	91.220
Tar_E	416	24.145	25.472	0	14.450	98.700
Tar_S	416	41.760	24.714	0	43.635	93.570
Tar_G	416	36.626	22.546	0	34.075	96.050
Rel_ESG	416	-17.033	25.725	-89.490	-15.155	59.510
Rel_E	416	-21.240	32.321	-96.210	-18.345	83.950
Rel_S	416	-14.280	32.195	-85.700	-11.430	67.140
Rel_G	416	-16.588	28.020	-93.180	-13.900	65.610
dCovid	416	0.245	0.431	0	0	1
Cul_dis	416	1.604	3.731	0	0	17.048
Firm controls						
Acq_size	416	16.037	1.628	12.062	15.986	19.502
Acq_leverage	416	0.284	0.167	0	0.270	0.757
Acq_TobinsQ	416	1.214	0.993	0.094	0.966	5.754
Acq_ROA	416	5.564	8.589	-30.320	5.970	34.130
Acq_liquidity	416	1.993	1.691	0.430	1.420	11.060
Tar_size	416	14.543	1.590	10.860	14.677	18.260
Tar_leverage	416	0.281	0.205	0	0.270	0.895
Tar_TobinsQ	416	1.379	1.337	0.090	0.955	7.884
Tar_ROA	416	2.124	13.229	-49.190	4.595	28.900
Tar_liquidity	416	2.466	2.406	0.430	1.690	14.770
Deal controls						
Deal_value	416	7.875	1.547	3.853	7.877	11.282
Rel_deal_value	416	0.722	1.040	0.007	0.407	6.603
dCash	416	0.341	0.475	0	0	1
dCross_border	416	0.325	0.469	0	0	1
dIndustry_related	416	0.738	0.440	0	1	1

Note. This table reports the descriptive statistics of variables incorporated in the empirical analysis. All variables are defined as detailed in Section 3.2. *N* denotes the number of observations and SD refers to the standard deviation. Acq and Tar refer to acquirer and target, respectively. Rel is the abbreviation of relative and Cul_dis denotes cultural distance. Considering ESG data, the E, S, and G variables correspond to environmental, social, and governance scores, respectively. All continuous variables are winsorized at the 1% and 99% level.

led to a destruction of acquirer shareholder value. As reflected by the standard deviation, for each event window there is considerable variation in the CARs. For example, CAR [-1,1] ranges from -22.6% to 21.1%. Moreover, the distribution of the CARs becomes wider as the considered event window expands. The mean and median values are close to each other, implying limited influence of extreme values in the sample.

Regarding the main independent variable, namely the overall ESG score, the average score of the acquirers (51.8) is higher than that of the targets (34.8). Accordingly, the average relative ESG score shows a negative value (-17.0), implying that acquirers tend to target firms with weaker ESG practices. This is in line with the findings of Deng et al. (2013), Cho et al. (2021), and Tampakoudis and Anagnostopoulou (2020). The superior ESG performance of acquirers compared to targets is also observed for the individual ESG dimensions. The difference could be related to the fact that acquiring firms tend to be larger than targets, since larger firms have more resources to spend on ESG activities and are subject to more public scrutiny, as highlighted before. As seen when comparing the three ESG dimensions, the overall ESG scores are driven down by the relatively low environmental (E) scores, especially for the target firms. The other independent variables of interest show that 25% of the M&A deals were announced during the COVID-19 period, suggesting a sufficient number of observations to investigate potential heterogeneous effects caused by COVID-19. The low mean value for the cultural distance index is in line with the observation that most transactions occur within the same country.

The bottom half of Table 4 reports summary statistics of all control variables. With respect to firm characteristics, it is observed that acquiring firms tend to be larger (as mentioned before) and more profitable than target firms. In particular, the ROA shows a mean of 5.6% for acquirers and 2.1% for targets. However, acquiring firms present a slightly lower average Tobin's Q (which reflects growth potential) compared to target firms, which could be attributable to the notion that acquirers often aim at targets with great growth opportunities. Furthermore, the results indicate that, on average, acquiring firms are less liquid than target firms, while there is no substantial discrepancy in terms of leverage. Regarding the deal-specific control variables, the relative deal value shows that, on average, the deal value amounted to about 72% of the acquiring firm's market value. Lastly, the dummy variables indicate that 34% of the M&A transactions involved all-cash offers and, as noted before, of the deals in the sample 33% are cross-border and 74% intra-industry deals.

The Pearson correlation coefficients between all variables incorporated in the multivariate regression analysis are reported in Appendix B. Pairwise correlations greater than 0.7 (in absolute value) among the independent and control variables used in a regression model imply potential multicollinearity issues (Kim, 2019; Pallant, 2005). In general, the observed correlation coefficients are low to moderate. There are some exceptions, for instance the high correlation between deal value and target size. Accordingly, to empirically test whether the regression estimates presented in this study are affected by multicollinearity, VIFs will be discussed in Section 5.

3.4 Univariate analysis

To gain a better understanding of the data and specifically the main variable of interest (ESG performance), a simple univariate analysis on acquirer CAR is conducted. In particular, the CARs of high-ESG firms and low-ESG firms are compared. Therefore, the sample is divided into two subgroups based on the percentiles of the ESG score. Table 5 presents the results of the univariate analysis. In Panel A, high-ESG (low-ESG) firms are defined as firms with ESG scores above (below) the sample median (see also Table 4). In Panel B, high-ESG firms are defined as firms with ESG scores above the 75th percentile, whereas firms with ESG scores below the 25th percentile are categorized as low-ESG. To test for equality of means of the two subgroups, a *t*-test is performed. Besides, equality of medians is assessed using the non-parametric Mann-Whitney test.

Table 5: CARs high vs low ESG based on median

	High ESG		Low ESG		High - Low	
	Mean	Median	Mean	Median	Mean	Median
Panel A: High > 50th percentile (N=208), Low < 50th percentile (N=208)						
Acquirer ESG						
CAR [-1,1]	-0.009	-0.006	-0.014	-0.012	0.005	0.006
CAR [-3,3]	-0.011	-0.010	-0.018	-0.007	0.007	-0.003
CAR [-5,5]	-0.008	-0.014	-0.019	-0.008	0.011	-0.005
Target ESG						
CAR [-1,1]	-0.016	-0.014	-0.006	-0.006	-0.009	-0.008
CAR [-3,3]	-0.018	-0.013	-0.010	-0.002	-0.008	-0.011
CAR [-5,5]	-0.018	-0.017	-0.009	-0.007	-0.010	-0.010
Relative ESG						
CAR [-1,1]	-0.011	-0.004	-0.011	-0.013	0.000	0.009
CAR [-3,3]	-0.013	0.000	-0.015	-0.013	0.002	0.013
CAR [-5,5]	-0.014	-0.015	-0.012	-0.011	-0.002	-0.003
Panel B: High > 75th percentile (N=102), Low ESG < 25th percentile (N=104)						
Acquirer ESG						
CAR [-1,1]	-0.008	-0.010	-0.013	-0.008	0.006	-0.002
CAR [-3,3]	-0.011	-0.013	-0.015	0.000	0.004	-0.013
CAR [-5,5]	-0.004	-0.014	-0.015	-0.006	0.012	-0.008
Target ESG						
CAR [-1,1]	-0.018	-0.013	-0.012	-0.008	-0.006	-0.005
CAR [-3,3]	-0.018	-0.013	-0.018	-0.020	0.000	0.006
CAR [-5,5]	-0.018	-0.024	-0.020	-0.016	0.002	-0.008
Relative ESG						
CAR [-1,1]	-0.022	-0.012	-0.003	-0.005	-0.019*	-0.007
CAR [-3,3]	-0.026	-0.010	-0.008	-0.008	-0.018	-0.002
CAR [-5,5]	-0.023	-0.006	-0.005	-0.015	-0.018	0.009

Note. This table reports the mean and median CARs of high-ESG firms and low-ESG firms for the three-, seven- and eleven-day event window (CAR [-1,1], CAR [-3,3], CAR [-5,5]). High-ESG firms are firms with a ESG score above the sample median and low-ESG firms are firms with an ESG score below the sample median. The last column documents the difference of means and medians between high- and low ESG companies. *N* denotes the number of M&A deals of the corresponding subsample. *, **, and *** represents significance at 10%, 5%, and 1% level, respectively.

In general, the results in Table 5 indicate that the distribution of CARs in not significantly different between the high- and low-ESG firms, in terms of mean and median. This holds for all event windows and ESG measures (i.e., acquirer, target, and relative ESG performance), and is inconsistent with the findings of Deng et al. (2013) and Tampakoudis et al. (2021). When looking at acquirer ESG in both panels, the average CARs for high-ESG firms are slightly higher than those for low-ESG firms, while the opposite applies to the medians. Here, it can be observed that the high-low categorization has no substantial impact on the difference between the two subgroups. For relative ESG performance, however, the influence of the categorization is greater. Specifically, when considering the more extreme cutoff (Panel B), the (absolute) difference in mean between the high- and low-ESG group increases. For CAR [-1,1], this difference is statistically significant and equal to -0.019 or -1.9%. Although this result seems in contrast with the theoretical framework outlined earlier, it is important to note that this univariate analysis does not account for differences in characteristics between the two subgroups, that may influence the relation between ESG and CAR (such as profitability or deal value) and therefore obscure the analysis. Indeed, the high- and low-ESG subgroups differ considerably in terms of the firm- and deal-level variables described in Table 3. Accordingly, to obtain an accurate understanding of the impact of ESG performance on cumulative abnormal returns, it is more appropriate to conduct a multivariate analysis. This approach enables controlling for the variations in underlying characteristics among firms.

4 Methodology

The methodology employed to answer the research question and test each hypothesis is described in this section. First, the traditional event study method is outlined. Subsequently, multiple multivariate regression models are established corresponding to the various hypotheses.

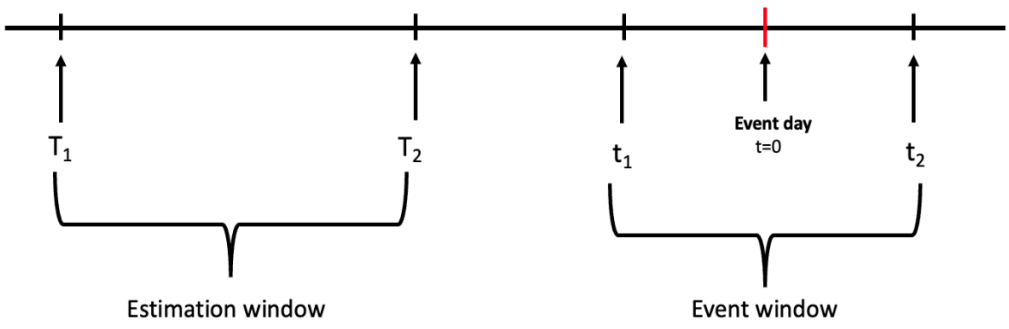
4.1 Traditional event study

To assess whether a firm's ESG performance influences investors' reaction to an M&A announcement, a measure for the market reaction to the M&A announcement is required. The standard event study methodology of MacKinlay (1997) is conducted in which stock price movements around particular events are investigated over a short time horizon. In this case, the announcement of an M&A deal is considered as the event. In an event study, the realized return is compared to the expected return in absence of the event—the difference between the two is referred to as the abnormal return. This approach relies on the semi-strong form of the efficient market hypothesis, which suggests that stock prices incorporate all public information and respond quickly to new public information (Fama, 1970). A characteristic of M&A

transactions that is key to this approach is that they are typically well disclosed, making their announcement unexpected. Accordingly, changes in investors sentiment following an M&A announcement should be reflected by stock price movements for the firms involved in the deal.

Defining the estimation window and event window is the first step in conducting an event study. The estimation window, $[T_1, T_2]$, is a period before the event window that is used to determine the necessary parameters for generating normal and subsequently abnormal returns. To avoid distorting effects on the normal returns, it is essential that the two windows do not overlap (MacKinlay, 1997). In this study, the estimation period compromises 250 trading days (i.e., around one trading year) and ends 21 days prior to the event day (t=*0*), in line with the research of Tampakoudis et al. (2021). The event window, $[t_1, t_2]$, is the time frame in which the specific event takes place and during which an effect is expected. According to MacKinlay (1997), at least one post-announcement day should be included to capture potential effects after closure of the stock exchange and delayed market reactions. Besides, it is common to consider a minimum of one pre-announcement day because of potential information leakages. Similar to prior studies (Yen & André, 2019; Cho et al., 2021), this study examines a three-, seven-, and eleven-day event window around the M&A announcement. Various event windows are exploited in order to examine the robustness of the results. The timeline of an event study is illustrated in Figure 1.

Figure 1: Event study timeline



The event study focuses on the stock return of the acquiring firm involved the M&A transaction. Given the daily stock prices for all acquirers in the sample, the daily stock return is calculated as:

$$R_{it} = \frac{P_{it}}{P_{it-1}} - 1 \qquad (2)$$

where R_{it} denotes the stock return of company i on trading day t, P_{it} is the stock price of company i on trading day t, and P_{it-1} represents the stock price on trading day prior to t.

Next, the market model is used to determine normal returns, which is defined by the equation:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (3)$$

where $E(R_{it})$ represents the normal return of firm i on day t, R_{mt} denotes the market return, and ε_{it} is the error term. The parameters alpha (α_i) and beta (β_i) are estimated by ordinary least squares estimates and capture the intercept and systematic risk (i.e., sensitivity to the market factor) of the security, respectively. The model is estimated over the specified estimation window of 250 days. As stocks returns around the world may be driven by distinct market factors, the benchmark index used as a proxy for the market return is chosen based on the acquirer's country, conform to Aktas et al. (2011). The details of the employed market portfolios are reported in Appendix C.

To compute the abnormal return of firm i on day t, the estimated normal return using the market model is subtracted from the observed return. The following equation is defined for the abnormal return:

$$AR_{it} = R_{it} - E(R_{it}) \quad (4)$$

where AR_{it} denotes the abnormal return of firm i on day t and $E(R_{it})$ is derived from equation (1). After determining the abnormal returns, the daily returns for a given firm are aggregated over the event window $[t_1, t_2]$ to obtain the cumulative abnormal return (CAR):

$$CAR_i[t_1, t_2] = \sum_{t=t_1}^{t_2} AR_{it} \quad (5)$$

4.2 Multivariate regression models

Subsequently, a multivariate regression analysis is conducted to investigate the impact of ESG scores on acquirer CAR, following the related studies of Chen et al. (2022), Cho et al. (2021), and Tampakoudis et al. (2021), among others. Through multivariate regressions, one can control for firm and deal characteristics that may influence M&A announcement returns as described in Section 3.2.

ESG performance

The first hypothesis posits that acquirer shareholder wealth is positively affected by the firm's ESG performance. To test this hypothesis, acquirer CAR is regressed on the main independent variable acquirer's ESG score, including control variables and fixed effects. As addressed before, ESG scores and firm-specific information at fiscal year-end prior to the deal announcement are employed. The regression equation for hypothesis 1 is given as follows:

$$CAR_i[t_1, t_2] = \alpha + \beta_1 Acq\_ESG_i + \beta_2 Firm\ controls_i + \beta_3 Deal\ controls_i + Year + Industry + \varepsilon_i \quad (6)$$

where $CAR_i[t_1, t_2]$ is defined as discussed before. α represents the regression intercept and Acq_ESG_i the overall ESG score of acquiring firm i. $Firm\ controls_i$ captures the firm-specific control variables of both acquiring and target firms and $Deal\ Controls$ includes the five defined deal-specific control variables. Lastly, ε_i is the error term.

As argued earlier, this study also examines the role of the target's ESG performance in the considered M&A outcomes. Specifically, the second hypothesis states that ESG performance of targets favorably affects the abnormal returns of acquiring firm. Moreover, according to the third hypothesis this effect is particularly pronounced when the target's ESG performance is superior to that of the acquirer. This hypothesis builds on the premise that in such deals, the acquirer has more opportunities to leverage complementary (ESG) capabilities of the target and can thereby enhance its competitive position and create shareholder value. To test these hypotheses, the following two regressions are performed:

$$CAR_i[t_1, t_2] = \alpha + \beta_1 Tar\_ESG_i + \beta_2 Firm\ controls_i + \beta_3 Deal\ controls_i + Year + Industry + \varepsilon_i \quad (7)$$

$$CAR_i[t_1, t_2] = \alpha + \beta_1 Rel\_ESG_i + \beta_2 Firm\ controls_i + \beta_3 Deal\ controls_i + Year + Industry + \varepsilon_i \quad (8)$$

where Tar_ESG_i denotes the overall ESG score of the target and Rel_ESG_i the overall ESG score the target relative to that of the acquirer (difference). The interpretation of the remaining variables is the same as in equation (5).

Impact of COVID-19

Next, this study aims to shed new light on the influence of COVID-19 on the relationship between ESG performance of merging firms and acquirer announcement returns. In particular, the worldwide economic uncertainty and changes in business environment caused by the pandemic may have altered investors' attitudes towards socially responsible initiatives of firms, as expressed in the fourth hypothesis. To investigate this notion, the following regression equation is considered:

$$\begin{aligned} CAR_i[t_1, t_2] = \alpha + \beta_1 Acq\_ESG_i + \beta_2 dCovid + \beta_3 Acq\_ESG_i * dCovid \\ + \beta_4 Firm\ controls_i + \beta_5 Deal\ controls_i + Year + Industry + \varepsilon_i \end{aligned} \quad (9)$$

where $dCovid$ represents the dummy variable that equals one if the M&A deal was announced after the official start of the COVID-19 pandemic (11 March 2020, see Section 3.2) and zero otherwise. The (difference-in-differences) interaction term $Acq\_ESG_i * dCovid$ captures the differential effect of the acquirer's ESG performance on announcement returns during COVID-19 compared to before. Note that the model specified in equation (8) is also estimated with the variables Tar_ESG_i and Rel_ESG_i in place of Acq_ESG_i.

Cultural distance

The final model expands equation (8) by incorporating the variable Cul_dis_i, which measures the cultural distance between the home and host country of the M&A transaction. To assess the moderating effect of cultural distance in the main relation under study, as expressed in the third hypothesis, the following triple-differences model is specified:

$$\begin{aligned} CAR_i[t_1, t_2] = \alpha + \beta_1 Acq\_ESG_i + \beta_2 dCovid + \beta_3 Cul\_dis_i + \beta_4 Acq\_ESG_i * dCovid \\ + \beta_5 Acq\_ESG_i * Cul\_dis_i + \beta_6 Cul\_dis_i * dCovid + \beta_7 Acq\_ESG_i * Cul\_dis_i * dCovid \\ + \beta_8 Firm\ controls_i + \beta_9 Deal\ controls_i + Year + Industry + \varepsilon_i \end{aligned} \quad (10)$$

The interaction term $Acq\_ESG_i * Cul\_dis_i * dCovid$ reflects the influence of cultural distance on the shareholder value effect of ESG performance during COVID-19.

Individual ESG dimensions

In addition to investigating the impact of the overall ESG score, this study considers each individual pillar separately to account for the idiosyncratic nature of the different ESG dimensions. This way, it possible to assess which ESG components drive the obtained results and thereby draw more precise inferences regarding the mechanisms studied in this research. Therefore, in each of the regression models specified above, the overall ESG variables are replaced by the corresponding environmental, social, and governance scores.

5 Results

This section presents the results of the multivariate regression analyses for each hypothesis. In Section 5.1, the effect of the overall ESG performance of merging firms on acquirer announcement returns is discussed, together with the impact of COVID-19 and cultural distance on this relationship. Thereafter, Section 5.2 evaluates how these relations differ across the individual ESG dimensions. Lastly, several robustness checks are performed in Section 5.3 to confirm the robustness of the findings.

5.1 Overall ESG performance

Prior to the regression analysis, VIFs are estimated to detect any multicollinearity issues among the independent variables, following common practice in the finance literature. Evaluating the three specifications of equation (10)—with acquirer, target, and relative ESG—almost all observed VIF values are below 2.0, except for acquirer size, target size, and deal value, for which maximum values of 3.7, 6.4, and 6.2 are found, respectively. Given the widely adopted threshold of 10.0 (O'brien, 2007), this indicates that the VIFs are moderate and do not provide evidence of multicollinearity.

Table 6 reports the regression results for each model specification considering the three-day event window CAR [-1,1], with as independent variable the overall ESG performance (*ESG*) of the acquirer (columns 1-3), target (columns 4-6), and target relative to acquirer (columns 7-9). Each model controls for year and industry fixed effects, as well as the deal- and firm-level characteristics outlined before. Heteroskedasticity-robust standard errors are reported in brackets. The adjusted R-squared, which indicates the explanatory power of the different models, varies between 6.9% and 7.8%. These values are slightly higher than those presented by Zhang, Zhang, and Yang (2022). Moreover, the unadjusted R-squared values are similar to those of Tampakoudis et al. (2021). Overall, the values are in line with the literature examining the relation between ESG performance and M&A announcement returns.

The regression results of the expanded event windows (CAR [-3,3] and CAR [-5,5]) are presented in Appendix D and from which it can be observed that the R-squared substantially decreases compared to the CAR [-1,1] models. This implies that the explanatory power of the models declines as the event window extends, in line with Andrade et al. (2001). However, the magnitude of the decrease in R-squared of this analysis is greater than that of previous studies. Furthermore, the low explanatory power of these models does not improve when eliminating (control) variables from the regression models.

Control variables

First, the results for the control variables are discussed (*Acq_size* to *dIndustry_related* in Table 6). Overall, the signs and magnitudes of the estimated coefficients are consistent across the nine model specifications, with several statistically significant results. *Acq_size* shows a significant positive coefficient estimate in columns (1) to (6), meaning that larger bidders realize greater acquirer announcement returns. Although this finding contradicts the expectations outlined in Section 3.2 it is consistent with the observations of related research of Aktas et al. (2011). The coefficient on *Acq_TobinsQ* is found to be positive and significant, suggesting that CAR increases with acquirer's Tobin's Q. One avenue through which this effect might occur is through the (typically) superior managerial quality of firms with a higher Tobin's Q, enabling them to better manage the M&A integration process and leverage their capabilities on the target to increase M&A performance (Lang et al., 1989). Further, the consistent negative and significant coefficient on *Acq_liquidity* indicates that acquirer's liquidity negatively influences announcement returns, in line with the findings of Tampakoudis et al. (2021). This relation might be attributable to a greater tendency of highly liquid acquirers to overpay for a target. While the results also provide some evidence of a positive effect of the target's profitability (*Tar_ROA*) on acquirer CAR, this effect disappears when expanding the model with the COVID-19 dummy and cultural distance variable.

Table 6: Effect of ESG performance on CAR [-1,1]

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.01	0.01	0.01	-0.04	-0.03	-0.03	-0.02	-0.03	-0.03
	[0.02]	[0.03]	[0.03]	[0.02]	[0.03]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.72	4.93		3.13	2.86		3.38	3.44
		[4.15]	[4.49]		[2.90]	[3.00]		[3.02]	[3.17]
ESGxdCovid		-0.07*	-0.05		-0.02	-0.01		0.04	0.02
		[0.04]	[0.05]		[0.04]	[0.05]		[0.04]	[0.05]
Cul_dis			0.28			0.21			0.13
			[0.35]			[0.22]			[0.16]
ESGxCul_dis			-0.00			-0.00			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.08			-0.19			-0.18
			[0.49]			[0.49]			[0.26]
ESGxCul_disxdCovid			-0.01			-0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.80*	0.76*	0.73*	0.72*	0.71*	0.67*	0.61	0.61	0.57
	[0.43]	[0.43]	[0.43]	[0.38]	[0.38]	[0.38]	[0.40]	[0.40]	[0.40]
Acq_leverage	-1.60	-1.21	-1.06	-1.86	-1.89	-1.59	-1.44	-1.28	-1.11
	[2.69]	[2.71]	[2.76]	[2.66]	[2.68]	[2.71]	[2.62]	[2.63]	[2.67]
Acq_TobinsQ	0.95*	0.97*	0.95*	0.92*	0.91*	0.89*	0.91*	0.90*	0.90*
	[0.53]	[0.51]	[0.52]	[0.52]	[0.52]	[0.53]	[0.53]	[0.52]	[0.53]
Acq_ROA	-0.03	-0.01	-0.01	-0.03	-0.03	-0.02	-0.03	-0.02	-0.02
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.06]
Acq_liquidity	-0.53**	-0.57**	-0.55**	-0.52**	-0.53**	-0.53**	-0.50**	-0.50**	-0.50**
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.46	0.45	0.35	0.69	0.67	0.67	0.64	0.65	0.61
	[0.55]	[0.55]	[0.56]	[0.57]	[0.57]	[0.58]	[0.58]	[0.58]	[0.59]
Tar_leverage	-3.74	-3.60	-3.76	-4.17*	-4.11*	-4.24*	-3.78*	-3.77	-3.74
	[2.30]	[2.32]	[2.32]	[2.35]	[2.38]	[2.38]	[2.29]	[2.31]	[2.30]
Tar_TobinsQ	-0.24	-0.20	-0.26	-0.19	-0.19	-0.20	-0.17	-0.16	-0.19
	[0.30]	[0.29]	[0.31]	[0.29]	[0.29]	[0.30]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05	0.05	0.05*	0.05*	0.05	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.17	0.17	0.15	0.16	0.17	0.15	0.18	0.16	0.15
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.46**	-1.46**	-1.37**	-1.39**	-1.37**	-1.35**	-1.52***	-1.55***	-1.49***
	[0.58]	[0.57]	[0.58]	[0.56]	[0.57]	[0.57]	[0.57]	[0.57]	[0.57]
Rel_Deal_value	0.66	0.70	0.68	0.70	0.69	0.67	0.75	0.77	0.77
	[0.47]	[0.47]	[0.48]	[0.47]	[0.47]	[0.47]	[0.48]	[0.49]	[0.49]
dCash	0.80	0.86	0.88	0.85	0.86	0.86	0.80	0.84	0.85
	[0.88]	[0.88]	[0.88]	[0.89]	[0.89]	[0.89]	[0.89]	[0.89]	[0.88]
dCross_border	-0.16	-0.15	-0.30	-0.04	-0.02	-0.32	-0.16	-0.14	-0.37
	[0.92]	[0.92]	[1.18]	[0.92]	[0.93]	[1.18]	[0.91]	[0.91]	[1.17]
dIndustry_related	1.23	1.29	1.36	1.26	1.27	1.33	1.18	1.22	1.26
	[1.02]	[1.04]	[1.04]	[1.00]	[1.00]	[1.01]	[1.00]	[1.02]	[1.02]
Constant	-7.02	-7.15	-6.14	-8.79	-8.56	-8.32	-6.92	-7.01	-6.39
	[7.31]	[7.43]	[7.40]	[7.46]	[7.50]	[7.57]	[7.24]	[7.32]	[7.37]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.074	0.073	0.078	0.074	0.069	0.074	0.072	0.069
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (column (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (column (2), (5), and (8)), and the triple-differences model with cultural distance (column (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

The remaining firm-specific controls show insignificant coefficient estimates, hampering interpretation of these coefficients. Nonetheless, some implications of the direction of the variable coefficients are discussed. First, target firm size displays a positive correlation with acquirer CAR. In contrast to acquirer's Tobin's Q, target's Tobin's Q shows a negative effect on acquirer announcement returns, in line with previous studies (Lang et al., 1989; Moeller et al., 2004) in which this relation is assigned to greater acquisition premiums. Yet, given the insignificance of the coefficients, the sample does not provide conclusive evidence for these relations. Furthermore, all deal-specific control variables display insignificant coefficients except for deal value. The coefficient on *Deal_value* is estimated to be negative and significant in each model, implying a negative relation between (absolute) deal value and acquirer CAR. This result, which is also found by Aktas et al. (2011), might be explained by the greater probability of overpaying when the deal value is high, which lowers earnings and therefore shareholder value (Loderer and Martin, 1990). Albeit insignificant, the sign of the coefficient estimates of the four remaining deal controls are (generally) in accordance with the expectations based on literature, as expressed in Section 3.2.

ESG performance and COVID-19

Next, the different hypotheses formulated in Section 2.2 are tested. Hypothesis 1a assesses the impact of acquirers' overall ESG performance on acquirer announcement returns. Column (1) of Table 6 shows a small negative coefficient for the variable *ESG*, suggesting that shareholder value is destructed by ESG activities of acquiring firms which contradicts hypothesis one. While Tampakoudis et al. (2021) also report a negative effect, pointing to the shareholder theory of Friedman (1970), the relation found in this study is statistically insignificant and the data does thus not support this conjecture. This observation is in conformity with the results of Fatemi et al. (2017), who demonstrate that ESG practices of acquirers do not affect value creation for shareholders surrounding M&A events (i.e., no wealth effects). Contrarily, the finding differs from those of Aktas et al. (2011) and Deng et al. (2013), who document a positive impact of acquirers' ESG scores on acquirer announcement returns. The discovered insignificance persists throughout the three different event windows (Appendix D). Accordingly, the findings do not provide support in favor of Hypothesis 1a.

Hypothesis 1b considers to what extent the target's ESG performance influences acquirer announcement returns and postulates that ESG practices of the target lead to value creation for shareholders of the acquiring firm. Column (4) displays a negative coefficient estimate of -0.04 for *ESG*, which has a *p*-value of 0.273. As a result, the effect of target ESG performance on the announcement returns of acquirers is insignificant, and the null hypothesis corresponding to Hypothesis 1b of no statistically significant influence can thus not be rejected. This finding differs from the results of Aktas et al. (2011), who establish a positive relation

between the target's CSR performance and acquirer announcement returns. In addition, this observation is at variance with the view of M&As as a means for the acquirer to access and transfer resources and capabilities from the target (building on the resource-based view of the firm) and thereby create firm value, as addressed by Tampakoudis and Agnostopoulou (2020).

Taking into account both the acquirer and target ESG performance, Hypothesis 1c investigates whether announcement returns of acquirers are positively impacted by the relative ESG score of the target firm (difference). Looking at column (7), it can again be observed that the coefficient on *ESG* is small and not significantly different from zero. Thus, there is no evidence in favor of Hypothesis 1c, meaning that the relative ESG performance of merging firms does not influence value creation for acquirer shareholders surrounding M&A announcements. This finding contradicts the results of Chen et al. (2022), who argue that acquirers are rewarded when acquiring a target with relatively high ESG performance.

The models discussed above (implicitly) assume that the impact of ESG performance of acquirer CAR is the same before and during COVID-19. To test Hypothesis 2a, according to which the COVID-19 pandemic negatively influenced this relationship, this assumption is alleviated. Indeed, in column (2) a negative and significant coefficient estimate of -0.07 is found for the interaction term *ESGxdCovid* (*p*-value 0.067), providing evidence in favor of Hypothesis 2a when considering acquirer ESG performance. This finding implies that during COVID-19, acquirers with higher ESG performance experienced significantly lower announcement returns than acquirers with lower ESG performance, ceteris paribus. Using a sample of U.S. M&As, Tampakoudis et al. (2021) reach the same conclusion. The insignificant coefficient estimate for *ESG* in this model indicates that in the pre-COVID-19 period, the relation between acquirer ESG and announcement returns is insignificant. This result differs from the study of Tampakoudis et al. (2021), who find a significantly negative effect of acquirer ESG in the period before COVID-19. A reason for this discrepancy may be the difference in sample selection procedure between this study and the authors' (i.e., this study has an international scope and only considers deals for which ESG data of both merging firms is available), in combination with the difference in sample period and COVID-19 period. As the event window is expanded, the observed negative effect of ESG during COVID-19 becomes less significant and disappears (see Appendix D). Taken together, the results suggest that in times of the pandemic, acquirer ESG performance negatively influences shareholder value in the short term (i.e., in the three-day window around M&A announcement), but the effect is not persistent.

For target and relative ESG performance, the coefficient on the interaction term *ESGxdCovid* is estimated to be statistically insignificant, as reported in column (5) and (8), respectively. This indicates that the influence of target or relative ESG performance on acquirer CAR during the COVID-19 pandemic is not significantly different from the pre-pandemic period. In terms of sign, the results suggest that COVID-19 influenced the relation between ESG

practices of the target and acquirer announcement returns in a similar way as when considering acquirer ESG practices. In contrast, a positive impact of the pandemic on the relation between ESG performance of the target relative to the acquirer and acquirer CAR is found. A potential explanation for this result is that investors may view investments in ESG initiatives by acquirers in times of crisis as inefficient or redundant but are aware of the (strategic) value of ESG capabilities embedded in targets with superior ESG performance that can yield competitive advantages in times of turmoil. However, these findings should be interpreted with caution given the insignificance of the corresponding coefficient estimates. Hence, the empirical evidence does not support Hypothesis 2b and 2c.

Cultural distance and COVID-19

Lastly, the models are extended to a triple-differences model that includes the cultural distance between the home and host country of the M&A deal. The corresponding regression estimates are reported in column (3), (6), and (9). Of particular interest is the coefficient on the triple interaction term *ESGxCul_disxdCovid*, which captures the influence of cultural distance on the relation between ESG performance and acquirer CAR during COVID-19. The coefficient estimates range from -0.01 for acquirer ESG performance (*p*-value 0.301) to 0.01 (*p*-value 0.295) for relative ESG performance, showing an insignificant impact of cultural distance across all three model specifications. Moreover, from the tables in Appendix D it can be observed that these coefficient estimates remain small and insignificant as the event window is extended. Therefore, the findings fail to reject the null hypothesis corresponding to Hypothesis 3 meaning that cultural distance does not influence the impact of COVID-19 on the relation between the overall ESG performance and acquirer announcement returns.

5.2 Individual ESG dimensions

The analysis presented above shows limited significant results in the relations under study when considering the overall ESG performance. However, as highlighted by Tampakoudis and Agnostopoulou (2020), among others, the use of overall ESG scores does not account for the distinct nature of the environmental, social, and governance dimension. As a result, this makes it harder to draw precise inferences regarding the impact of ESG. Therefore, in this section ESG is decomposed to derive a broader understanding of the studied relationships and assess which ESG pillars drive the findings described in Section 5.1, as expressed in Hypothesis 4.

Table 7 presents the main regression results for each individual ESG component with as dependent variable the acquirer cumulative abnormal return in the three-day event window, i.e., CAR [-1,1]. Again, year and industry fixed effects are included, as well as the set of firm- and deal-specific control variables. The table shows the main coefficient estimates per dimension, i.e., those related to *ESG* (which is used to refer to each specific dimension here),

Table 7: Effect of individual ESG dimensions on CAR [-1,1]

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.02	-0.01	-0.00	0.00	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
dCovid		5.55	4.98		2.22	1.96		3.42	3.29
		[3.57]	[3.74]		[2.74]	[2.88]		[2.88]	[3.02]
ESGxdCovid		-0.07**	-0.06		-0.01	-0.01		0.05*	0.04
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.03]
Cul_dis			0.41			0.29*			0.12
			[0.29]			[0.18]			[0.17]
ESGxCul_dis			-0.01			-0.01			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			-0.05			-0.33			-0.08
			[0.46]			[0.42]			[0.26]
ESGxCul_dis xdCovid			-0.01			-0.00			0.01*
			[0.01]			[0.01]			[0.01]
	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.01	-0.02	-0.05***	-0.04**	-0.05**	-0.02	-0.02	-0.02
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]
dCovid		2.87	1.87		4.81	4.60		2.45	2.70
		[4.11]	[4.33]		[3.05]	[3.23]		[2.77]	[2.95]
ESGxdCovid		-0.02	-0.00		-0.04	-0.03		-0.02	-0.03
		[0.04]	[0.05]		[0.04]	[0.04]		[0.04]	[0.04]
Cul_dis			0.10			-0.02			0.13
			[0.28]			[0.24]			[0.14]
ESGxCul_dis			0.00			0.00			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.26			0.08			-0.24
			[0.51]			[0.47]			[0.24]
ESGxCul_dis xdCovid			-0.01			-0.01			0.01
			[0.01]			[0.01]			[0.01]
	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.41	4.65		1.34	0.75		3.46	3.47
		[3.92]	[4.30]		[2.85]	[3.01]		[2.84]	[3.03]
ESGxdCovid		-0.06*	-0.04		0.02	0.03		0.06*	0.05
		[0.04]	[0.05]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			0.12			0.25			0.11
			[0.30]			[0.21]			[0.15]
ESGxCul_dis			-0.00			-0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.26			-0.12			-0.24
			[0.42]			[0.46]			[0.24]
ESGxCul_dis xdCovid			-0.01			-0.00			0.00
			[0.01]			[0.01]			[0.01]

Note. This table displays the estimation results of the regression models with each individual ESG dimension as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. E, S, and G denote the environmental, social, and governance score, respectively. Three different model specifications are estimated: the baseline model including E, S, or G performance (column (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (column (2), (5), and (8)), and the triple-differences model with cultural distance (column (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively. To conserve space, only the main estimates are reported. The full tables can be found in Appendix E.

dCovid, and *Cul_dis*. The complete regression tables, including all control variables and adjusted R-squared, are provided in Appendix E. Overall, the signs and significance of the control variables are generally comparable to the coefficients in Table 6, and interpretation of these values thus remains unchanged.

ESG performance and COVID-19

Focusing on the environmental dimension, columns (1), (4), and (7) indicate that there is no significant relation between the environmental performance of merging firms and acquirer announcement returns based on the entire sample period. The same holds true for governance performance. When considering the social dimension, however, a negative and highly significant relation is found between the target's social performance and acquirer CAR. In particular, on average, an increase in social score of the target of one point results in a decrease in acquirer CAR [-1,1] of 0.05%, ceteris paribus. This suggests that investors view social initiatives by targets as unfavorable, perhaps because the social performance of firms requires more deliberate investments (e.g., in working conditions or personal employee development) than the other two dimensions, which are more directly linked to inherent business processes or structures.

Next, columns (2), (5), and (8) display the estimation results when incorporating the COVID-19 dummy. Comparing the different ESG dimension, several interesting conclusions can be drawn. First, the negative and significant coefficient on *ESGxdCovid* observed before for acquirer overall ESG is also found when only considering environmental performance. Specifically, on average, the impact of a one-point increase in environmental score of the acquiring firm on CAR [-1,1] is 0.07% lower during COVID-19 than before the pandemic, ceteris paribus. Likewise, the insignificant coefficient on *ESGxdCovid* for the target's overall ESG performance reported in Table 6 remains insignificant when focusing solely on environmental performance. Contrarily, for the target's relative performance, column (8) now shows a positive and significant effect of COVID-19 on the relation between environmental score and CAR. Similar results—in terms of coefficient signs and significance—are obtained for the governance dimension, across the three model specifications. The social dimension, however, displays insignificant coefficient estimates for the *ESGxdCovid* interaction term. Thus, it follows that the negative and significant impact of the COVID-19 pandemic on the relation between acquirer overall ESG performance and announcement returns is driven by the environmental and governance dimensions. Moreover, the analysis of individual ESG components reveals that COVID-19 positively affected the relation between the target's relative environmental and governance performance and acquirer announcement returns. This link is obscured when examining overall ESG performance. Accordingly, the results provide support for Hypothesis 4, which states that the effect of COVID-19 varies across the three ESG dimensions.

The findings for the social dimension—for which no significant impact of COVID-19 is found—contradict the expectations based on previous literature, which has generally demonstrated that social initiatives help firms withstand crises (e.g., by enhancing customer and employee loyalty). With respect to the environmental dimension, the significant interaction coefficient in column (2) is consistent with the findings of Hoang et al. (2020), who argue that market participants do not consider environmental investments as essential during an economic downturn. For instance, in such times investors may prioritize short-term financial stability over longer-term environmental performance, which requires investments in sustainable practices and does not directly contribute to recovering from an economic shock (i.e., the COVID-19 pandemic). Along the same lines, it can be argued that investors react more positively to an M&A when the target has superior environmental performance, a seen in column (8). Namely, the acquirer can reap the (long-term) benefits of sustainable business practices of the target without the need for investments that otherwise could compromise financial stability during a crisis. For the governance dimension, the negative impact of COVID-19 may be ascribed to that strong corporate governance might result in a too conservative and risk-averse decision-making process which is time-consuming and less flexible. In times of crisis, it is important that companies are able to react fast and are allowed to implement innovative and creative solutions. Consequently, acquiring firms could miss out on opportunities that might be meaningful for their shareholders. Besides, investors may assume that acquiring firms with good corporate governance are more likely to pay a fair price for targets rather than pursuing a discount. Especially during an economic downturn, this could become more detrimental as acquirers allocate resources and time to an M&A transaction instead of investing in adapting to new business circumstances brought up by COVID-19.

Cultural distance and COVID-19

Finally, the triple-differences model specified in equation (10) is re-estimated for each ESG dimension. The corresponding regression estimates are reported in column (3), (6), and (9). Considering the target's relative environmental performance, a positive and statistically significant coefficient estimate is observed for the triple interaction term *ESGxCul_disxdCovid.* On the contrary, no significant effect is found for acquirer or target environmental performance. The positive estimate in column (9) suggests that the impact of COVID-19 on the relation between relative environmental performance and announcement returns is stronger when the two merging firms are more culturally distant. Moreover, when the cultural distance index is zero (i.e., when the target and acquirer are from the same country) the effect of COVID-19 on the relation under study is weaker and becomes insignificant (coefficient of 0.04). A potential explanation for this result may be that the COVID-19 pandemic created a shift in business environments and stimulated firms to be more resourceful in order to weather the economic

downturn, in combination with the change in consumer behavior towards more environmentally friendly products and services. As a result, investors may attach greater importance to the value creation potential of accessing environmental capabilities embedded in target firms from more culturally distant countries. These firms may be more likely to possess knowledge and capabilities that are distinct from and complementary to the capabilities of the acquirer. This way, the merged entity can generate a competitive advantage and save costs, making it more likely for the entity to survive in times of crisis.

The social dimension shows insignificant coefficient estimates for all three model specifications, indicating that cultural distance has no significant influence on the extent to which COVID-19 affected the relation between social performance of merging firms and announcement returns. Nevertheless, the signs of the triple-differences coefficient estimates are consistent with the results for the environmental dimension. The same holds true for the governance dimension. Again, insignificance of the coefficients for the social dimension may be due to the fact that social competences tend to be more difficult to transfer between firms.

Overall, the results presented in Table 7 demonstrate the distinct nature of the three ESG dimensions and provide more insight into the relationships under study. With respect to cultural distance, there is some evidence of a moderating effect for the environmental dimension, which is obscured when looking at overall ESG performance. Yet, most of the effects in the triple-differences model are insignificant, suggesting that the degree to which the relation between ESG performance of merging firms and acquirer announcement returns is dependent on the cultural distance between the merging firms is limited. However, failure to identify significant moderating effects may also be a result of the relatively small sample size.

Fixed effects

As mentioned in Section 3.2, all model specifications are re-run without (year) fixed effects. Although the COVID-19 period stretches multiple years and the corresponding dummy variable captures the overall effect of the pandemic, the year fixed effects may partially capture the COVID-19 effect, thereby complicating the identification of a distinct COVID-19 effect. On the other hand, including industry fixed effects when the sample size is limited can reduce the statistical power of the analysis. Therefore, it is useful to also evaluate the regression results when excluding these fixed effects. The results of this analysis are reported in Appendix F and G. Overall, the regression results are generally unaltered compared to those discussed above. Specifically, in terms of significance of the main interaction coefficients *ESGxdCovid* and *ESGxCul_disxdCovid*, the findings for the model with only industry fixed effects and the model without fixed effects are consistent with those of the model including both fixed effects. This holds for both overall ESG performance and the individual ESG dimensions. A notable difference is that the (positive) coefficient on the dummy *dCovid* becomes significant in most

model specifications when the year fixed effects are excluded. This implies that, on average, acquirer CARs were higher after the start of the COVID-19 pandemic than before, ceteris paribus. When including year fixed effect, the individual year dummies capture this COVID-19 effect. Besides, the signs of the coefficient estimates for the control variables remain unchanged, although minor changes in significance are observed (e.g., relative deal value becomes highly significant). Finally, as expected, omitting the year and/or industry fixed effects leads to a reduction in the adjusted R-squared of the different models.

5.3 Robustness analysis

This section presents several robustness analyses, in order to evaluate the sensitivity of the findings to various data and model specifications. First, the regression analysis is repeated using an alternative model for (ab)normal returns. Next, an alternative measure for ESG performance is employed based on percentile ranking. Lastly, various subsample analyses are performed to examine whether the findings are driven by specific parts of the data sample.

Alternative estimation of abnormal returns

As a first robustness check, an alternative model is used to estimate acquirer abnormal returns. The market model used in the main analysis is a single factor model that includes a country-specific market factor (see Appendix C). The alternative model specification considered here adds that size (Small Minus Big) and value (High Minus Low) factor of Fama and French (1992) to this model, which are often used to describe the cross section of stock returns. The size factor captures variation in performance between small and large companies. According to the size anomaly, small firms should expect higher returns than their larger counterparts. The value factor captures the difference in performance between growth and value stocks (high book-to-market ratios), with growth stocks typically underperforming value stocks. As the size and value factor are thus factors of risk affecting stock returns, assessing their impact on the estimation of abnormal returns is a useful exercise (Jegadeesh & Titman, 1993; Lakonishok et al., 1994). Table 8 presents summary statistics of CAR [-1,1] for the baseline market model (i.e., only including country-specific market factors) and the alternative market model (i.e., adding the size and value factors). For reference, the third row presents these results for the original Fama-French three-factor model, in which the size and value factors are accompanied by a U.S. market factor instead of country-specific market factors.

The table shows that the distribution of CARs is similar across the three model specifications (in terms of mean, median, and standard deviation), indicating that the calculation of abnormal returns is not substantially affected by the alterations to the employed model. This strong similarity is confirmed by the pairwise correlation coefficients between the different CAR series, which are around 0.99 (not reported here). Looking at the last column in

Table 8: Summary statistics of CAR [-1,1] for different AR models

Model	Variable	*N*	Mean	SD	Minimum	Median	Maximum	Avg. adj. R-squared
Market model	CAR [-1,1]	416	-0.012	0.078	-0.226	-0.009	0.211	0.272
FF size & value	CAR [-1,1]	416	-0.011	0.081	-0.254	-0.010	0.457	0.306
FF three-factor	CAR [-1,1]	416	-0.011	0.081	-0.252	-0.008	0.464	0.238

Note. This table reports descriptive statistics of acquirer cumulative abnormal returns (CAR [-1,1]) for three different AR models. The market model refers to the initial market model as outlined in equation (3), the second model adds the Fama-French size and value factors to this model, and the third model is the Fama-French three-factor model with a single (U.S.-based) market factor plus the size and value factors. *N* denotes the number of observations and SD refers to the standard deviation. The CARs are winsorized at the 1% and 99% level.

the table, a slight increase in average adjusted R-squared is observed when the Fama-French size and value factors are added to the initial model, implying (on average) an improvement in explanatory power of the model. Interestingly, the average R-squared of both these models is considerably higher than that of the Fama-French three-factor model, demonstrating the added value of incorporating a country-specific market factor. The regression results obtained when employing as dependent variable the alternative CAR [-1,1] series (i.e., corresponding to the AR model with the size and value factor) are reported in Appendix H. In general, the results are consistent with the previously discussed findings (Section 6.1 and 6.2), with significance of the main effects unchanged. The same holds true for the firm- and deal-level control variables. Thus, the findings of the main analysis appear to be robust to the exact specification of the model used to determine acquirer abnormal returns. Specifically, augmenting the baseline model (which only considers a country-specific market factor) with two additional stock-market factors (i.e., the Fama-French size and value factors) leads to the same empirical evidence for the relationships under study.

Alternative measure for ESG performance

Next, following related studies (e.g., Tampakoudis et al., 2021), the continuous variable *ESG* (which ranges between 0 and 100) is replaced by a dummy that equals one if the ESG score is greater than the median of *ESG* and zero otherwise (for acquirer, target, and relative performance). Thereby, differences between low- and high-ESG firms are assessed. Contrary to the continuous variable, this variable specification disregards the effects of variations in ESG performance within these two groups. Note that the baseline model specification employed here (i.e., equations (6)-(8) with high-ESG dummy) is similar to the univariate analysis presented in Section 3.4. However, this analysis controls for firm- and deal-level factors.

Appendix I documents the regression results obtained when adopting the alternative ESG measure (high-ESG dummy). In terms of sign, the estimated coefficients on the interactions terms *ESGxdCovid* and *ESGxCul_disxdCovid* are consistent with the results of the main analysis. However, the estimates are (mostly) statistically insignificant. For *ESGxdCovid*, this implies that the impact of COVID-19 on acquirer CARs is not significantly different for low- and

high-ESG firms. Yet, the effect becomes significant (in most model specifications) when taking into account the variation in ESG scores, as shown in the main empirical analysis. Interestingly, column (7) in Table I.1 shows a positive (albeit insignificant) coefficient estimate for *ESG* of 0.68 for relative ESG performance. In the univariate analysis (Table 5) this effect was found to be negative and significant, which was at variance with the theoretical framework discussed in Section 2. This illustrates the importance of controlling for relevant firm- and deal-level variables to derive more meaningful and precise inferences.

Subsample analysis

Lastly, the regression models are re-estimated based on different subsets of the data sample. This way, it can be evaluated whether the findings presented in Section 5 are driven by specific parts of the sample, i.e., by particular sets of firms or deals with certain characteristics. To this end, three partitions of the data are considered: (1) cross-border vs domestic deals, (2) all-cash vs other deals, and (3) deals with relative deal value above vs below the median. For each subsample, the difference-in-differences model specified in equation (9) is estimated, with the original CAR [-1,1] series as dependent variable and overall ESG performance as main independent variable. Year and industry fixed effects are excluded given the further reduction in sample size. The main regression results corresponding to this analysis are displayed in Table 9. The full sets of coefficient estimates can be found in Appendix J.

In the main analysis, the COVID-19 effect for acquirer ESG captured by the coefficient on *ESGxdCovid* was estimated at -0.07 (without fixed effects, see Appendix G), with a *p*-value of 0.059. The results in Table 9 reveal that this effect is driven by cross-border deals, all-cash deals, and deals with a low relative deal value. In particular, the estimated interaction term coefficient is -0.18 (*p*-value 0.014) based on the sample of cross-border deals, while it is not significantly different from zero for domestic deals. This finding is in line with the observation of previous studies that the effects of cross-border and domestic M&A deals on acquirer announcement returns can vary considerably, and reflects the idiosyncratic nature of both types of deals. A potential explanation for the difference could be that COVID-19 exacerbated the difficulties arising from cross-border deals due to implemented travel restrictions, which likely did not affect domestic deals in the same magnitude. Among others, these restrictions have increased barriers to conducting due diligence, negotiation, and integration processes, complicating deal execution and communication. In addition, cross-border deals are more vulnerable to global economic disruptions due to supply chain challenges and uncertainties in global markets (e.g., changes in government policies). In this light, investors can be expected to shift their priorities toward factors related to short-term stability rather than longer-term sustainability and ESG initiatives, which provides an explanation for the negative COVID-19 effect for cross-border deals. For domestic deals, the absence of this negative effect can, in a

Table 9: Effect of ESG performance on CAR [-1,1] based on subsamples

CAR [-1,1]	Domestic (1)	Cross-border (2)	Non-cash (3)	Cash (4)	Low rel. deal value (5)	High rel. deal value (6)
Panel A: Acquirer ESG						
ESG	-0.02	0.00	-0.03	0.05	0.04	-0.04
	[0.03]	[0.05]	[0.03]	[0.03]	[0.03]	[0.04]
dCovid	2.92	8.96	2.79	14.02***	10.02***	4.25
	[3.36]	[5.41]	[3.60]	[3.46]	[2.64]	[4.84]
ESGxdCovid	0.01	-0.18**	-0.01	-0.20***	-0.13***	-0.07
	[0.06]	[0.07]	[0.06]	[0.05]	[0.04]	[0.08]
Panel B: Relative ESG						
ESG	-0.02	-0.03	-0.01	-0.04	-0.04	-0.02
	[0.02]	[0.04]	[0.03]	[0.02]	[0.02]	[0.03]
dCovid	3.36**	0.13	1.84	3.70**	5.87***	0.27
	[1.64]	[2.87]	[1.70]	[1.72]	[1.41]	[2.10]
ESGxdCovid	0.00	0.09	0.00	0.09***	0.13***	-0.03
	[0.06]	[0.06]	[0.07]	[0.03]	[0.04]	[0.10]
Observations	281	135	274	142	208	208
Year Fixed Effects	No	No	No	No	No	No
Industry Fixed Effects	No	No	No	No	No	No

Note. This table displays estimation results of the regression model specified in equation (9) for various subsamples of the data, with the acquirer's (Panel A) and the target's relative (Panel B) overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. The partitioning in columns (1) and (2) is based on *dCross_border*, in columns (3) and (4) on *dCash*, and in columns (5) and (6) on *Rel_Deal_value* (below and above the median, respectively). Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively. To conserve space, only the main estimates are reported. The full tables can be found in Appendix J.

similar vein, be argued to be related to reduced cross-border complexities and familiarity with local market conditions. For relative ESG, the coefficient on the interaction term is insignificant for both of these subsamples, suggesting that COVID-19 did not impact the value investors attach to the target's (relative) ESG initiatives in case of domestic or cross-border M&As. An explanation for this finding could be that the cross-country setting makes it more difficult for the acquirer to reap the benefits from the target's ESG practices, while domestic targets do not possess sufficient complementary resources.

Secondly, columns (3) and (4) show that the negative influence of COVID-19 on the relation between acquirer ESG performance and acquirer CAR is more pronounced for all-cash deals, with an estimated interaction coefficient of -0.20 (*p*-value 0.000). This finding might be attributed to liquidity concerns and risk aversion during times of economic uncertainty, such as the COVID-19 pandemic. Investors may perceive cash payment as riskier since cash-intensive transactions deplete the acquirer's financial resources and elevate exposure to market volatility and financial distress. This becomes particularly relevant in periods where preservation of cash and liquidity is prioritized. Consequently, their negative attitude towards ESG initiatives of acquirers during COVID-19 (which require investments, see also Section 5.2) is especially prevalent when the acquirer finances the deal entirely by cash. Lastly, although the coefficient

on *ESGxdCovid* is negative for both deals with relative deal value below and above the median, the effect is only significant (coefficient of -0.13, *p*-value 0.003) for the former. As before, this discrepancy could be related to liquidity or resource availability concerns among investors. Namely, acquirers executing an M&A transaction with a low relative deal value may (already) experience greater financial constraints and more limited resources compared to an acquirer capable of affording a high relative deal value for a transaction. The economic uncertainty arising from the COVID-19 pandemic may magnify these constraints, generating a more risk-averse investment strategy regarding ESG activities. Interestingly, for relative ESG the interaction effect is positive and significant when only considering all-cash deals or deals with low relative deal value. Building upon the rationale outlined above, these effects could be explained by liquidity concerns among acquirer shareholders in such types of deals. As a results, investors may have assigned greater value to the target's superior ESG capabilities during COVID-19, given the perceived importance in mitigating risks and enhancing resilience.

Overall, the results presented here demonstrate that the impact of COVID-19 on the relation between ESG and acquirer CAR depends on the home and host country, payment method, and relative deal value of the M&A transaction. The negative (overall) COVID-19 effect observed when considering acquirer ESG is found to be persistent for cross-border deals, all-cash deals, and deals with a low relative deal value. For the last two subsamples, the positive yet insignificant COVID-19 effect found in the main analysis when considering the target's relative ESG performance becomes more pronounced and significant. Characteristics of the subsamples suggest that these effects are linked to increased (economic) uncertainties and risk-averse behavior and shifting priorities among investors, in line with the conjecture put forward in Section 5.2. Thereby, the subsample analysis highlights key factors influencing how ESG initiatives are perceived by investors during the COVID-19 crisis.

6 Conclusion

This paper set out to investigate the impact of the COVID-19 pandemic on the relationship between the ESG performance of merging firms and acquirer announcement returns in the market for corporate control. The exogenous and unprecedented nature of the pandemic presents an opportunity to explore whether ESG creates shareholder value in times of crisis. Employing a global sample of 416 M&A transactions announced between 2011 and 2022, a traditional event study is conducted to assess the reaction of market participants to deal announcements. Subsequently, a multivariate regression analysis is performed to discern how the joint effect of (pre-deal) ESG and COVID-19 influences acquirer cumulative abnormal returns. Here, overall ESG performance is decomposed into the individual ESG pillars to gain a broader understanding of the mechanisms at play. Within this context, the moderating role of cultural distance between merging firms is also explored.

The results indicate that, on average, overall ESG performance—of the acquirer, target, or target relative to acquirer—has no significant effect on acquirer announcement returns. Therefore, no evidence is found to support Hypothesis 1a, 1b, or 1c (i.e., that ESG performance of merging firms positively influences acquirer announcement returns). This observation contradicts prior studies regarding acquirers' ESG (Deng et al., 2013; Krishnamurti et al., 2019; Zhang et al., 2022) and targets' ESG (Aktas et al., 2011; Guidi et al., 2020; Tampakoudis and Anagnostopoulou, 2020). Nonetheless, the results are consistent with that of Fatemi et al. (2017) and Yen and André (2019) and imply that the reaction of investors to M&A deal announcement is not dependent on the ESG practices of the merging firms. Yet, when evaluating differences in this relationship before and during COVID-19, a negative effect of the pandemic on the relationship between acquirer ESG and acquirer announcement returns is observed. Accordingly, the empirical results provide support in favor of Hypothesis 2a. As the event window is expanded, this negative effect becomes less significant and disappears. In line with Tampakoudis et al. (2021), this finding suggests that market participants considered ESG investments of acquiring firms as costly and redundant during COVID-19. Reducing ESG initiatives enables managers to allocate more time and resources to dealing with imminent business issues caused by economic downturns, and investors may expect acquiring firms to reprioritize accordingly (Bansal et al., 2022; Lins et al., 2017). In addition, the influence of target or relative ESG performance on acquirer CAR during the COVID-19 pandemic is not found to be significantly different from the pre-pandemic period, providing no evidence to corroborate Hypothesis 2b or 2c. Regarding the cultural distance between the two merging firms, no moderating effect on the relation between overall ESG, COVID-19, and acquirer CAR is discovered. Altogether, these findings indicate that the ESG performance of merging firms does not serve as a resilience factor to an exogenous shock like the COVID-19 pandemic, consistent to the findings of Tampakoudis et al. (2021).

When considering each individual ESG dimension separately, the results reveal that the negative impact of COVID-19 on the relationship between acquirer ESG performance and acquirer announcement returns is primarily driven by the environmental and governance dimensions. As emphasized by the studies of Cho et al. (2021) and Barros et al. (2022), each ESG pillar is related to distinct costs and benefits for a firm and therefore each dimension might affect investors' views differently. Similar to Hoang et al. (2020), environmental initiatives of acquiring firms are perceived more negatively by market participants in times of crisis, which could reflect the capital-intensive nature of environmental capabilities. Interestingly, the negative impact of COVID-19 is not observed for the relation between the acquirers' social performance and acquirer CAR, suggesting that the negative COVID-19 effect is (partly) mitigated by the social capabilities of the acquirer. As argued by Shan and Thang (2020), a strong social profile helps firms withstand crises (e.g., by enhancing customer and employee

loyalty). Moreover, the analysis shows that COVID-19 positively affected the relationship between the target's relative environmental and relative governance performance and acquirer announcement returns. This result suggests that in more economically challenging times such as the pandemic, investors recognize the value potential associated with superior resource endowments of targets, which the acquirer can leverage to enhance its competitive positive. For the social dimension this positive effect is not observed, perhaps because social capabilities are often embedded in an organizational culture and thus tend to be more difficult to transfer between firms. Overall, the findings provide support for Hypothesis 4 that the impact of the pandemic on the relationship between ESG and acquirer shareholder value varies across the ESG dimensions. For targets' relative environmental performance, a positive and significant effect of cultural distance on the impact of COVID-19 is obtained. Thereby, some evidence is found for a moderating effect of cultural distance (Hypothesis 3), albeit limited. The finding implies that the positive COVID-19 effect on the link between targets' relative environmental capabilities and acquirer shareholder value is especially strong when the merging firms are more culturally distant. This may be attributed to the fact that cultural distance enhances the likelihood that the environmentally related resources of the two firms are complementary, leading to increased potential for value creation.

Finally, the regressions results remain broadly unchanged when year and industry fixed effects excluded from the models. The robustness analysis demonstrates that the findings are robust to changes in the estimation of abnormal returns (i.e., augmenting the market model with two common stock market factors). However, replacing the continuous ESG performance variable by a high-ESG dummy leads to weaker COVID-19 effects, suggesting that investors incorporate variations in ESG ratings across all firms in their decision-making process and not necessarily differences between low- and high-ESG firms. Lastly, the subsample analysis illustrates that the observed COVID-19 effect for acquirer and relative ESG performance is principally driven by cross-border deals, all-cash deals, and deals with low relative deal value. This hints towards the mechanisms at play in financial markets during the COVID-19 pandemic that can elucidate the empirical findings, namely heightened market uncertainty, shifting investors priorities, and risk-averse behavior.

Theoretical implications

This study provides multiple contributions to the existing literature. Despite extensive research on the implications of the ESG performance—or corporate social responsibility in general—of merging firms for M&A outcomes, there has been scant investigation into investors' views on ESG factors in the M&A context in times of crisis. More specifically, the paper by Tampakoudis et al. (2021) is the only one to explore this particular topic in relation to the COVID-19 pandemic. The present study enhances this limited body of literature by building upon existing

studies and addressing their limitations. First, this study illuminates the influence of ESG performance on acquirer shareholder value before and during the COVID-19 pandemic by considering ESG ratings of both merging firms, in an international setting. Whereas Tampakoudis et al. (2021) have established a negative COVID-19 effect when considering the ESG performance of U.S. acquirers, I confirm this result based on a dataset of global deals. Moreover, this study extends their work by incorporating the target's ESG performance (both absolute and relative to the acquirer's). This extension provides novel insight into the M&A value creation process and, more specifically, investors' sentiment regarding ESG considerations during periods of economic turmoil. Second, this paper adds to the literature by disentangling the effects of each ESG dimension and demonstrating the unique nature of the different dimensions. Among others, Tampakoudis and Anagnostopoulou (2020) and Tampakoudis et al. (2021)—who only investigate overall ESG performance—have suggested that future studies embrace a broader view of ESG using the individual ESG components. This way, a better grasp of the underlying mechanisms driving the relationship between ESG and a certain outcome can be derived (Barros et al., 2022; Cho et al., 2021). This research provides the first empirical evidence demonstrating that the negative impact of the coronavirus crisis on the relationship between acquirer ESG and acquirer shareholder value can be primarily attributed to investors' attitudes towards environmental and governance considerations during this period. Third, the current study complements existing research in the field by performing an elaborate analysis of the influence of firm- and deal-level characteristics on the effect of COVID-19 on the relation between ESG and acquirer CAR. This includes an assessment of the impact of cultural distance between merging firms, as well as an analysis of relevant subsamples of the data. Thereby, various factors are identified that elucidate the impact of the COVID-19 pandemic, expanding on the work of Tampakoudis et al. (2021) and contributing valuable insights to the current body of M&A literature. The empirical observations are also conducive to the discussion in the literature regarding the pertinence of stakeholder theory and shareholder theory (Freeman, 1984; Friedman, 1970).

Practical implications

The findings presented in this paper have meaningful implications for managers, policymakers, and investors. For managers of firms, understanding the negative impact of COVID-19 on the relation between ESG performance and M&A announcement returns helps to assess and manage the risks related to their ESG practices during a crisis. The results stress the importance of aligning (ESG) business strategies with altering market conditions and investor priorities or expectations. In future crises, investments in ESG initiatives should be accompanied by a thorough risk assessment—guided by the results of this study—and clear communication toward stakeholders to mitigate the negative impact of the period of economic

turmoil. Moreover, existing ESG initiatives should be reevaluated, potentially with a reallocation of resources to address the specific challenges of the crisis. At the same time, the results illustrate that (shareholders of) acquiring firms can benefit from targeting a firm with a relatively strong environmental or governance performance compared to the acquiring firm. Managers intending to conduct an M&A deal in times of crisis should incorporate this knowledge into the due diligence process. In a similar vein, the results of this study are useful for investors by helping them better assess the potential risks and opportunities associated with ESG factors in times of crisis. Knowledge of the adverse effects of COVID-19 on acquiring firms, particularly those with strong ESG performance, enhances investor awareness of short-term disruptions during crises, thereby informing investment decisions that prioritize longer-term support for sustainable companies. This may lead to a reassessment of the weight assigned by investors to ESG considerations. Again, a similar line of reasoning can be used to argue that investors can capitalize on the insights derived from the positive impact of COVID-19 on the relationship between the target's relative ESG performance and acquirer CAR. From a policymaker's perspective, the findings of this study can be utilized to make informed adjustments to or reinforce existing policies aimed at promoting ESG activities within businesses. This may include developing or refining financial incentive structures and regulatory frameworks to realign the business environment with national ESG objectives, given the challenges and opportunities posed by the crisis. Moreover, policymakers can provide incentives or even implement regulations for firms to enhance ESG reporting. This way, market participants have access to consistent and comparable ESG-related information which enables them to consider potential risk and opportunities (of ESG factors) more effectively. Particularly in times of crisis, transparency is important as market participants already experience increased uncertainty.

7 Limitations and Future Research

Lastly, it is important to address the limitations of this research, while also recognizing the numerous avenues for future research. First, a notable limitation of this study is the limited sample size due to the lack of available ESG data, especially for target firms which are often private companies. A small sample size reduces statistical power of regression models and tends to increase variability in the data. This makes it more difficult to detect significant effects, particularly when the number of variables increases, which could explain the predominantly insignificant results observed for cultural distance. Moreover, a small and less diversified sample limits the representativeness and therefore generalizability of empirical results. That is, the results presented in this study could reflect the characteristics of the specific firms included in the sample and may not be applicable to a broader set of firms. Building on this drawback, it would be interesting for future research to explore whether there are significant differences in the investigated relationships between acquirers targeting private firms

compared to those targeting public firms. Given the substantial disparities between public and private firms (e.g., in terms of public scrutiny or disclose requirements), one could argue that the response of acquirer shareholders to deal announcements may vary considerably. However, the development of ESG databases is crucial for future studies to overcome the current data availability issues. A related limitation is the low degree of commonality observed in ESG ratings from different providers, as observed in the literature (e.g., Dorfleitner et al., 2015). Among others, this makes the results contingent on the specific ratings used and hampers the comparability with previous studies. It would be valuable for future studies to combine multiple ESG metrics to arrive at a more robust measure of company sustainability or examine which metrics are most relevant for the decision-making process of investors. In addition, it is important to acknowledge that the significance and accuracy of ESG ratings can vary across countries and historic periods. Similarly, it would be valuable to assess whether the impact of COVID-19 on investors' views on ESG initiatives persists after the crisis period.

Furthermore, this study is limited it its ability to draw conclusive statements regarding causality. In general, establishing a causal link between ESG and financial firm performance in the context of M&A can be complicated due to endogeneity issues and influences of potential confounding factors (Aktas et al., 2011; Chen et al., 2022; Deng et al., 2013). In this case, reverse causality between ESG performance and acquirer announcement returns cannot be ruled out. However, this issue is partly mitigated by the use of lagged ESG scores (i.e., from the year before announcement of an M&A deal). This implies that the ESG performance is evaluated prior to the M&A event and thus prior to the materialization of abnormal returns, in line with the concept of temporal precedence. Besides, an extensive set of controls is used—based on an elaborate analysis of relevant literature—to rule out alternative explanations for the observed relationships as much as possible. Nonetheless, to strengthen the evidence regarding the existence of causal links, a two-stage least squares regression model could be employed as an alternative to the OLS model. For instance, a two-stage instrumental regression approach could be adopted (e.g., Krishnamurti et al., 2019). Additionally, whereas this study provides novel insights into the (joint) impact of ESG performance and the COVID-19 pandemic on acquirer CARs and thus investor behavior, the exact mechanisms underlying the relationship can be clarified further. For example, the results of the subsample analysis suggest that the negative impact of COVID-19 on the relation between acquirer ESG acquirer CARs is linked to risk-averse behavior and shifting priorities among investors. It would be interesting to empirically verify this conjecture. Finally, while the focus of this paper was to explain short-term market reactions, a longer-term investigation (i.e., longer event window) would be a relevant direction for future work. Such a study would likely yield insights regarding investor behavior surrounding M&A events that complement the present study.

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Appendices

Appendix A ESG score methodology from Refinitiv

Table A.1: ESG score methodology from Refinitiv

Pillar	Category	Themes	Metrics	Weight
Environmental	Resource use	Water	20	11%
		Energy		
		Sustainable packaging		
		Environmental supply chain		
	Emission	Emission	28	15%
		Waste		
		Biodiversity		
		Environmental management systems		
	Innovation	Product innovation	20	11%
		Green revenues, R&D, and CAPEX		
Social	Workforce	Diversity and inclusion	30	16%
		Career development and training		
		Working conditions		
		Health and safety		
	Human rights	Human rights	8	4%
	Community	Community	14	8%
	Product responsibility	Responsible marketing	10	5%
		Product quality		
		Data privacy		
Governance	Management	Structure (independence, diversity, committees)	35	19%
		Compensation		
	Shareholders	Shareholder rights	12	6%
		Takeover defenses		
	CSR strategy	CSR strategy	9	5%
		ESG reporting and transparency		
			186	100%

Note. This table provides a summary of the process of calculating the ESG score in Refinitiv (2022). The last column represents the weight assigned to each category in the overall ESG score, which is based on the relative count of the metrics.

Appendix B Correlation matrix

Table B.1: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 CAR [-1,1]	1												
2 CAR [-3,3]	0.883*	1											
3 CAR [-5,5]	0.812*	0.892*	1										
4 Acq_ESG	0.010	0.024	0.041	1									
5 Acq_E	0.027	0.041	0.060	0.892*	1								
6 Acq_S	-0.056	-0.038	-0.011	0.727*	0.488*	1							
7 Acq_G	0.033	0.039	0.043	0.931*	0.798*	0.516*	1						
8 Tar_ESG	-0.069	-0.037	-0.034	0.294*	0.288*	0.154*	0.287*	1					
9 Tar_E	-0.028	-0.003	0.001	0.274*	0.312*	0.166*	0.224*	0.850*	1				
10 Tar_S	-0.134*	-0.104*	-0.124*	0.179*	0.18*	0.118*	0.165*	0.773*	0.504*	1			
11 Tar_G	-0.017	0.013	0.030	0.293*	0.258*	0.147*	0.309*	0.908*	0.734*	0.521*	1		
12 Acq_size	0.043	0.046	0.033	0.567*	0.612*	0.279*	0.529*	0.278*	0.281*	0.173*	0.253*	1	
13 Acq_leverage	0.038	0.018	0.009	-0.032	0.016	-0.075	-0.033	0.015	0.040	-0.041	0.022	0.104*	1
14 Acq_TobinsQ	0.023	0.065	0.068	0.078	-0.014	0.042	0.130*	0.034	-0.045	0.028	0.063	-0.189*	-0.089
15 Acq_ROA	-0.028	0.024	-0.008	0.227*	0.201*	0.167*	0.210*	0.114*	0.087	0.102*	0.101*	0.206*	0.008
16 Acq_liquidity	-0.082	-0.072	-0.025	-0.204*	-0.24*	-0.146*	-0.140*	-0.113*	-0.131*	-0.055	-0.093	-0.366*	-0.131*
17 Tar_size	-0.032	0.010	0.006	0.145*	0.187*	0.065	0.100*	0.438*	0.524*	0.266*	0.383*	0.469*	0.093
18 Tar_leverage	0.011	0.019	0.028	-0.012	-0.005	0.007	-0.026	-0.049	0.028	-0.044	-0.063	0.065	0.133*
19 Tar_TobinsQ	0.001	0.001	-0.015	0.128*	0.119*	0.016	0.170*	0.009	-0.071	0.001	0.049	0.067	0.008
20 Tar_ROA	0.028	0.045	0.024	-0.009	0.036	-0.022	-0.021	0.183*	0.223*	0.103*	0.156*	0.019	0.061
21 Tar_liquidity	0.024	0.026	0.009	0.104*	0.070	0.055	0.136*	-0.093	-0.167*	-0.062	-0.028	-0.007	-0.070
22 Deal_value	-0.042	-0.008	-0.025	0.304*	0.306*	0.123*	0.296*	0.477*	0.483*	0.275*	0.469*	0.549*	0.101*
23 Rel_Deal_value	-0.007	-0.015	-0.036	-0.361*	-0.362*	-0.242*	-0.341*	0.087	0.096*	0.045	0.081	-0.313*	0.188*
24 dCash	0.075	0.047	0.008	0.271*	0.239*	0.116*	0.311*	-0.051	-0.095	-0.012	-0.045	0.216*	-0.092
25 dCross_border	0.010	-0.019	-0.027	0.198*	0.248*	0.063	0.202*	0.113*	0.103*	0.072	0.122*	0.084	-0.018
26 dIndustry_related	0.044	0.049	0.038	0.090	0.076	0.089	0.084	0.058	0.088	0.045	0.053	0.089	0.012

Table B.1: Correlation matrix (continued)

	14	15	16	17	18	19	20	21	22	23	24	25	26
14 Acq_TobinsQ	1												
15 Acq_ROA	0.244*	1											
16 Acq_liquidity	0.235*	-0.133*	1										
17 Tar_size	-0.120*	0.154*	-0.250*	1									
18 Tar_leverage	-0.105*	0.066	-0.004	0.205*	1								
19 Tar_TobinsQ	0.362*	0.035	0.041	-0.354*	-0.215*	1							
20 Tar_ROA	0.054	0.194*	-0.076	0.342*	0.098*	-0.041	1						
21 Tar_liquidity	0.183*	-0.023	0.245*	-0.343*	-0.120*	0.281*	-0.299*	1					
22 Deal_value	0.116*	0.257*	-0.197*	0.770*	0.032	0.091	0.336*	-0.104*	1				
23 Rel_Deal_value	-0.171*	-0.178*	0.061	0.147*	-0.024	-0.079	0.118*	-0.099*	0.198*	1			
24 dCash	0.063	0.155*	-0.036	-0.27*	0.001	0.106*	-0.083	0.058	-0.152*	-0.321*	1		
25 dCross_border	0.003	0.097*	-0.064	-0.059	-0.015	0.047	0.022	0.006	0.020	-0.109*	0.302*	1	
26 dIndustry_related	-0.043	0.006	-0.006	0.086	0.019	-0.041	-0.068	0.081	0.121*	0.065	-0.032	0.063	1

Note. This table reports the Pearson correlations between all variables incorporated in the empricial analysis. * denotes significance at the 5% level.

Appendix C Market return benchmarks

Table C.1: Market return benchmarks

Country	Market index	Country	Market index
Australia	ASX 300	Italy	STOXX Europe 600
Belgium	STOXX Europe 600	Japan	Nikkei 225
Bermuda	MSCI World	Malaysia	S&P Asia 50
Brazil	S&P Latin America 40	Netherlands	STOXX Europe 600
Canada	TSX Composite Index	Norway	STOXX Europe 600
China (Mainland)	S&P Asia 50	Poland	STOXX Europe 600
Colombia	S&P Latin America 40	South Africa	JSE
Denmark	STOXX Europe 600	South Korea	S&P Asia 50
Finland	STOXX Europe 600	Spain	STOXX Europe 600
France	STOXX Europe 600	Sweden	STOXX Europe 600
Germany	STOXX Europe 600	Switzerland	STOXX Europe 600
Gibraltar	STOXX Europe 600	Taiwan	S&P Asia 50
Hong Kong	S&P Asia 50	Thailand	S&P Asia 50
India	S&P Asia 50	United Arab Emirates	MSCI World
Indonesia	S&P Asia 50	United Kingdom	FTSE 250
Ireland	STOXX Europe 600	United States	S&P 500
Israel	MSCI World		

Note. This table reports the market indices applied for each country in the sample by determining the normal returns. As it can be seen the ASX 300 is applied as benchmark for Australia and the STOXX Europe 600 is used as benchmark for Belgium.

Appendix D Regression results overall ESG performance

Table D.1: Effect of ESG performance on CAR [-3,3]

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-3,3]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.01	0.02	0.02	-0.02	-0.02	-0.02	-0.01	-0.03	-0.02
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		10.71***	10.70**		7.15**	6.99**		8.78***	8.79***
		[4.03]	[4.29]		[3.24]	[3.30]		[3.08]	[3.22]
ESGxdCovid		-0.06	-0.06		0.01	0.01		0.05	0.05
		[0.05]	[0.06]		[0.05]	[0.05]		[0.04]	[0.05]
Cul_dis			0.33			0.38			0.17
			[0.39]			[0.25]			[0.17]
ESGxCul_dis			-0.00			-0.00			-0.00
			[0.01]			[0.00]			[0.00]
Cul_disxdCovid			-0.43			-0.47			-0.39
			[0.57]			[0.50]			[0.26]
ESGxCul_disxdCovid			-0.00			0.00			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.63	0.58	0.58	0.66	0.64	0.60	0.56	0.55	0.52
	[0.51]	[0.51]	[0.52]	[0.45]	[0.46]	[0.46]	[0.47]	[0.48]	[0.48]
Acq_leverage	0.03	0.05	0.06	0.02	0.02	0.04	0.03	0.03	0.05
	[0.26]	[0.26]	[0.27]	[0.26]	[0.27]	[0.27]	[0.26]	[0.27]	[0.27]
Acq_TobinsQ	1.29**	1.28**	1.28**	1.29**	1.25**	1.23**	1.27**	1.25**	1.24**
	[0.59]	[0.58]	[0.59]	[0.58]	[0.59]	[0.60]	[0.59]	[0.59]	[0.60]
Acq_ROA	0.00	0.02	0.03	0.00	0.01	0.01	0.00	0.01	0.02
	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]
Acq_liquidity	-0.42	-0.45	-0.46	-0.42	-0.41	-0.42	-0.41	-0.41	-0.43
	[0.30]	[0.31]	[0.31]	[0.30]	[0.30]	[0.30]	[0.30]	[0.30]	[0.30]
Tar_size	0.68	0.67	0.59	0.76	0.74	0.73	0.79	0.79	0.76
	[0.70]	[0.70]	[0.72]	[0.71]	[0.72]	[0.73]	[0.72]	[0.72]	[0.74]
Tar_leverage	0.13	0.10	0.13	0.10	0.11	0.15	0.11	0.12	0.15
	[0.24]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.24]	[0.25]	[0.25]
Tar_TobinsQ	-0.04	-0.02	-0.07	-0.03	-0.04	-0.05	-0.01	-0.00	-0.02
	[0.39]	[0.38]	[0.41]	[0.39]	[0.40]	[0.41]	[0.40]	[0.39]	[0.41]
Tar_ROA	0.06	0.05	0.05	0.06	0.06	0.05	0.06	0.05	0.05
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
Tar_liquidity	0.28	0.27	0.25	0.28	0.27	0.25	0.28	0.26	0.24
	[0.24]	[0.24]	[0.24]	[0.25]	[0.25]	[0.25]	[0.25]	[0.24]	[0.24]
Deal_value	-1.58**	-1.58**	-1.51*	-1.51**	-1.48*	-1.45*	-1.58**	-1.60**	-1.58**
	[0.77]	[0.76]	[0.78]	[0.75]	[0.76]	[0.77]	[0.76]	[0.76]	[0.77]
Rel_Deal_value	0.54	0.58	0.56	0.53	0.51	0.49	0.57	0.60	0.59
	[0.57]	[0.57]	[0.58]	[0.57]	[0.58]	[0.58]	[0.58]	[0.58]	[0.59]
dCash	0.62	0.71	0.68	0.67	0.71	0.67	0.64	0.70	0.68
	[1.05]	[1.05]	[1.05]	[1.05]	[1.06]	[1.06]	[1.05]	[1.05]	[1.05]
dCross_border	-0.56	-0.53	-0.86	-0.46	-0.40	-0.91	-0.52	-0.47	-0.92
	[1.04]	[1.04]	[1.34]	[1.05]	[1.06]	[1.34]	[1.03]	[1.03]	[1.32]
dIndustry_related	1.49	1.56	1.61	1.54	1.57	1.63	1.49	1.56	1.62
	[1.10]	[1.12]	[1.12]	[1.10]	[1.10]	[1.11]	[1.09]	[1.10]	[1.10]
Constant	-9.33	-9.23	-8.50	-10.73	-10.28	-9.97	-9.89	-9.74	-9.01
	[9.39]	[9.47]	[9.53]	[9.51]	[9.62]	[9.66]	[9.20]	[9.30]	[9.42]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.032	0.033	0.029	0.033	0.028	0.027	0.033	0.035	0.029
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the seven-day event window (CAR [-3,3]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table D.2: Effect of ESG performance on CAR [-5,5]

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.03	0.04	0.03	-0.01	-0.02	-0.02	-0.02	-0.04	-0.03
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.04]	[0.02]	[0.02]	[0.02]
dCovid		11.75***	10.93**		8.00**	7.29*		11.47***	11.68***
		[4.31]	[4.66]		[3.51]	[3.76]		[3.63]	[3.82]
ESGxdCovid		-0.04	-0.01		0.04	0.06		0.06	0.06
		[0.06]	[0.07]		[0.06]	[0.06]		[0.05]	[0.06]
Cul_dis			-0.06			0.16			0.07
			[0.44]			[0.27]			[0.19]
ESGxCul_dis			0.00			-0.00			-0.00
			[0.01]			[0.01]			[0.00]
Cul_disxdCovid			0.34			0.16			-0.29
			[0.62]			[0.50]			[0.31]
ESGxCul_disxdCovid			-0.01			-0.01			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.64	0.59	0.55	0.84*	0.84*	0.79	0.69	0.67	0.65
	[0.58]	[0.59]	[0.59]	[0.50]	[0.50]	[0.51]	[0.51]	[0.52]	[0.52]
Acq_leverage	0.04	0.05	0.05	0.02	-0.00	-0.00	0.02	0.02	0.03
	[0.30]	[0.30]	[0.31]	[0.30]	[0.30]	[0.31]	[0.30]	[0.30]	[0.31]
Acq_TobinsQ	1.56**	1.53**	1.49**	1.60**	1.55**	1.53**	1.56**	1.53**	1.51**
	[0.65]	[0.65]	[0.67]	[0.64]	[0.66]	[0.68]	[0.65]	[0.65]	[0.66]
Acq_ROA	-0.03	-0.01	-0.02	-0.02	-0.03	-0.03	-0.03	-0.01	-0.01
	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]
Acq_liquidity	-0.11	-0.13	-0.12	-0.14	-0.11	-0.10	-0.12	-0.12	-0.13
	[0.30]	[0.31]	[0.31]	[0.30]	[0.30]	[0.30]	[0.30]	[0.30]	[0.30]
Tar_size	0.53	0.50	0.43	0.46	0.46	0.42	0.62	0.62	0.60
	[0.74]	[0.74]	[0.76]	[0.75]	[0.76]	[0.77]	[0.74]	[0.74]	[0.76]
Tar_leverage	0.18	0.16	0.17	0.16	0.18	0.20	0.15	0.15	0.19
	[0.30]	[0.30]	[0.31]	[0.30]	[0.30]	[0.31]	[0.30]	[0.30]	[0.31]
Tar_TobinsQ	-0.11	-0.10	-0.12	-0.16	-0.17	-0.19	-0.10	-0.09	-0.09
	[0.43]	[0.43]	[0.45]	[0.43]	[0.44]	[0.45]	[0.43]	[0.42]	[0.43]
Tar_ROA	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
Tar_liquidity	0.16	0.15	0.14	0.16	0.14	0.12	0.16	0.13	0.12
	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Deal_value	-1.57*	-1.55*	-1.46*	-1.43*	-1.42*	-1.36	-1.48*	-1.50*	-1.48*
	[0.83]	[0.83]	[0.85]	[0.82]	[0.83]	[0.84]	[0.81]	[0.81]	[0.83]
Rel_Deal_value	0.43	0.44	0.41	0.34	0.32	0.29	0.41	0.44	0.42
	[0.61]	[0.61]	[0.61]	[0.61]	[0.61]	[0.62]	[0.62]	[0.63]	[0.63]
dCash	-0.20	-0.12	-0.07	-0.14	-0.09	-0.11	-0.14	-0.06	-0.06
	[1.04]	[1.04]	[1.06]	[1.05]	[1.05]	[1.06]	[1.04]	[1.04]	[1.06]
dCross_border	-0.31	-0.26	-0.32	-0.19	-0.11	-0.39	-0.18	-0.12	-0.24
	[1.03]	[1.03]	[1.33]	[1.05]	[1.05]	[1.32]	[1.01]	[1.01]	[1.28]
dIndustry_related	1.01	1.06	1.18	1.12	1.16	1.26	1.08	1.16	1.21
	[1.33]	[1.35]	[1.35]	[1.32]	[1.32]	[1.32]	[1.29]	[1.30]	[1.31]
Constant	-9.39	-8.89	-7.75	-11.11	-10.60	-9.76	-11.17	-10.90	-10.45
	[10.31]	[10.53]	[10.80]	[10.63]	[10.77]	[10.93]	[9.90]	[10.03]	[10.20]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.018	0.019	0.016	0.019	0.016	0.015	0.019	0.020	0.017
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the eleven-day event window (CAR [-5,5]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix E Regression results individual ESG dimensions

Table E.1: Effect of environmental performance on CAR [-1,1]

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.02	-0.01	-0.00	0.00	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
dCovid		5.55	4.98		2.22	1.96		3.42	3.29
		[3.57]	[3.74]		[2.74]	[2.88]		[2.88]	[3.02]
ESGxdCovid		-0.07**	-0.06		-0.01	-0.01		0.05*	0.04
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.03]
Cul_dis			0.41			0.29*			0.12
			[0.29]			[0.18]			[0.17]
ESGxCul_dis			-0.01			-0.01			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			-0.05			-0.33			-0.08
			[0.46]			[0.42]			[0.26]
ESGxCul_disxdCovid			-0.01			0.00			0.01*
			[0.01]			[0.01]			[0.01]
Acq_size	0.74	0.70	0.68	0.73*	0.72*	0.66*	0.69	0.73*	0.69
	[0.45]	[0.45]	[0.45]	[0.38]	[0.38]	[0.39]	[0.42]	[0.42]	[0.42]
Acq_leverage	-1.48	-0.94	-0.61	-1.57	-1.58	-1.15	-1.46	-1.18	-0.88
	[2.71]	[2.72]	[2.78]	[2.71]	[2.72]	[2.75]	[2.63]	[2.66]	[2.70]
Acq_TobinsQ	0.94*	0.97**	0.95*	0.93*	0.91*	0.87	0.93*	0.99*	0.97*
	[0.52]	[0.49]	[0.51]	[0.52]	[0.52]	[0.53]	[0.53]	[0.51]	[0.52]
Acq_ROA	-0.03	-0.00	-0.01	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.57**	-0.53**	-0.51**	-0.51**	-0.51**	-0.51**	-0.54**	-0.53**
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.49	0.47	0.37	0.55	0.54	0.59	0.54	0.50	0.49
	[0.55]	[0.54]	[0.55]	[0.59]	[0.59]	[0.60]	[0.58]	[0.57]	[0.58]
Tar_leverage	-3.67	-3.59	-3.84*	-3.76	-3.72	-3.83*	-3.68	-3.68	-3.72
	[2.30]	[2.31]	[2.31]	[2.31]	[2.33]	[2.32]	[2.28]	[2.28]	[2.28]
Tar_TobinsQ	-0.22	-0.18	-0.23	-0.21	-0.20	-0.19	-0.21	-0.22	-0.23
	[0.30]	[0.28]	[0.29]	[0.30]	[0.30]	[0.31]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05	0.05	0.05*	0.05*	0.05	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.18	0.17	0.15	0.17	0.17	0.16	0.17	0.16	0.15
	[0.19]	[0.18]	[0.18]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.50***	-1.49***	-1.38**	-1.49***	-1.47**	-1.47**	-1.51***	-1.54***	-1.50***
	[0.57]	[0.56]	[0.56]	[0.57]	[0.58]	[0.58]	[0.57]	[0.57]	[0.57]
Rel_Deal_value	0.69	0.75	0.74	0.69	0.69	0.67	0.71	0.75	0.75
	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.49]	[0.49]
dCash	0.79	0.86	0.91	0.80	0.81	0.83	0.80	0.85	0.86
	[0.89]	[0.89]	[0.88]	[0.89]	[0.90]	[0.90]	[0.90]	[0.90]	[0.90]
dCross_border	-0.19	-0.12	-0.34	-0.16	-0.13	-0.42	-0.20	-0.20	-0.39
	[0.95]	[0.95]	[1.20]	[0.92]	[0.92]	[1.17]	[0.91]	[0.92]	[1.19]
dIndustry_related	1.20	1.24	1.23	1.22	1.22	1.27	1.20	1.27	1.29
	[1.01]	[1.03]	[1.02]	[1.01]	[1.01]	[1.02]	[1.01]	[1.02]	[1.02]
Constant	-6.65	-6.73	-6.12	-7.32	-7.17	-7.49	-6.62	-6.68	-6.27
	[7.64]	[7.76]	[7.67]	[7.70]	[7.78]	[7.78]	[7.23]	[7.31]	[7.38]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.078	0.080	0.072	0.068	0.066	0.072	0.074	0.071
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the environmental performance (E) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including E performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table E.2: Effect of social performance on CAR [-1,1]

	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.01	-0.02	-0.05***	-0.04**	-0.05**	-0.02	-0.02	-0.02
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]
dCovid		2.87	1.87		4.81	4.60		2.45	2.70
		[4.11]	[4.33]		[3.05]	[3.23]		[2.77]	[2.95]
ESGxdCovid		-0.02	-0.00		-0.04	-0.03		-0.02	-0.03
		[0.04]	[0.05]		[0.04]	[0.04]		[0.04]	[0.04]
Cul_dis			0.10			-0.02			0.13
			[0.28]			[0.24]			[0.14]
ESGxCul_dis			0.00			0.00			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.26			0.08			-0.24
			[0.51]			[0.47]			[0.24]
ESGxCul_disxdCovid			-0.01			-0.01			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.80**	0.78**	0.75*	0.74**	0.72*	0.67*	0.67*	0.67*	0.64*
	[0.39]	[0.40]	[0.40]	[0.37]	[0.37]	[0.38]	[0.37]	[0.38]	[0.38]
Acq_leverage	-1.67	-1.61	-1.34	-2.26	-2.40	-2.11	-1.58	-1.76	-1.61
	[2.63]	[2.65]	[2.68]	[2.57]	[2.58]	[2.61]	[2.60]	[2.61]	[2.64]
Acq_TobinsQ	0.96*	0.96*	0.94*	0.94*	0.95*	0.93*	0.91*	0.91*	0.90*
	[0.53]	[0.53]	[0.54]	[0.52]	[0.51]	[0.52]	[0.52]	[0.53]	[0.53]
Acq_ROA	-0.03	-0.02	-0.02	-0.02	-0.02	-0.01	-0.03	-0.03	-0.03
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.06]
Acq_liquidity	-0.55**	-0.56**	-0.55**	-0.50**	-0.53**	-0.52**	-0.47*	-0.47*	-0.46*
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.44	0.43	0.34	0.73	0.66	0.64	0.65	0.61	0.56
	[0.56]	[0.56]	[0.56]	[0.54]	[0.54]	[0.55]	[0.56]	[0.56]	[0.57]
Tar_leverage	-3.77*	-3.74	-3.83*	-4.11*	-4.01*	-4.05*	-3.74*	-3.69	-3.57
	[2.28]	[2.29]	[2.28]	[2.22]	[2.21]	[2.23]	[2.27]	[2.26]	[2.26]
Tar_TobinsQ	-0.26	-0.25	-0.30	-0.18	-0.18	-0.19	-0.15	-0.16	-0.20
	[0.30]	[0.30]	[0.31]	[0.29]	[0.29]	[0.30]	[0.30]	[0.30]	[0.31]
Tar_ROA	0.05*	0.05*	0.05	0.05*	0.05	0.05	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.17	0.17	0.15	0.17	0.17	0.16	0.18	0.18	0.17
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.20]	[0.19]	[0.19]	[0.19]
Deal_value	-1.44**	-1.43**	-1.33**	-1.41**	-1.34**	-1.30**	-1.53***	-1.50***	-1.45**
	[0.58]	[0.58]	[0.58]	[0.56]	[0.57]	[0.57]	[0.57]	[0.57]	[0.58]
Rel_Deal_value	0.65	0.66	0.62	0.73	0.73	0.70	0.75	0.74	0.72
	[0.47]	[0.47]	[0.47]	[0.46]	[0.46]	[0.46]	[0.47]	[0.47]	[0.47]
dCash	0.79	0.82	0.86	0.92	0.92	0.95	0.84	0.83	0.89
	[0.88]	[0.88]	[0.89]	[0.88]	[0.88]	[0.89]	[0.89]	[0.89]	[0.89]
dCross_border	-0.21	-0.21	-0.46	-0.02	-0.01	-0.20	-0.11	-0.08	-0.30
	[0.91]	[0.91]	[1.17]	[0.90]	[0.90]	[1.16]	[0.91]	[0.91]	[1.18]
dIndustry_related	1.25	1.27	1.38	1.25	1.29	1.35	1.17	1.18	1.21
	[1.01]	[1.02]	[1.03]	[0.98]	[0.97]	[0.98]	[1.00]	[0.99]	[0.99]
Constant	-6.08	-6.09	-5.10	-8.85	-8.42	-7.42	-7.99	-7.64	-7.02
	[7.29]	[7.39]	[7.39]	[7.14]	[7.16]	[7.30]	[7.31]	[7.30]	[7.35]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.075	0.071	0.069	0.095	0.093	0.088	0.078	0.074	0.070
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the social performance (S) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including S performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table E.3: Effect of governance performance on CAR [-1,1]

	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.41	4.65		1.34	0.75		3.46	3.47
		[3.92]	[4.30]		[2.85]	[3.01]		[2.84]	[3.03]
ESGxdCovid		-0.06*	-0.04		0.02	0.03		0.06*	0.05
		[0.04]	[0.05]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			0.12			0.25			0.11
			[0.30]			[0.21]			[0.15]
ESGxCul_dis			-0.00			-0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.26			-0.12			-0.24
			[0.42]			[0.46]			[0.24]
ESGxCul_disxdCovid			-0.01			-0.00			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.74*	0.71*	0.66	0.73*	0.74*	0.69*	0.73*	0.74*	0.69*
	[0.41]	[0.42]	[0.42]	[0.38]	[0.39]	[0.39]	[0.40]	[0.40]	[0.40]
Acq_leverage	-1.48	-1.14	-0.95	-1.48	-1.58	-1.24	-1.47	-1.31	-1.02
	[2.69]	[2.72]	[2.77]	[2.66]	[2.68]	[2.72]	[2.63]	[2.65]	[2.69]
Acq_TobinsQ	0.94*	0.96*	0.94*	0.93*	0.92*	0.90*	0.93*	0.95*	0.92*
	[0.53]	[0.51]	[0.52]	[0.52]	[0.53]	[0.54]	[0.53]	[0.51]	[0.52]
Acq_ROA	-0.03	-0.01	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.56**	-0.55**	-0.51**	-0.50**	-0.50**	-0.51**	-0.53**	-0.54**
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.49	0.49	0.39	0.50	0.51	0.52	0.50	0.51	0.51
	[0.56]	[0.55]	[0.56]	[0.57]	[0.57]	[0.58]	[0.58]	[0.57]	[0.58]
Tar_leverage	-3.68	-3.51	-3.65	-3.70	-3.73	-3.90	-3.67	-3.62	-3.65
	[2.29]	[2.31]	[2.32]	[2.33]	[2.37]	[2.38]	[2.29]	[2.30]	[2.30]
Tar_TobinsQ	-0.22	-0.18	-0.23	-0.22	-0.22	-0.22	-0.22	-0.18	-0.18
	[0.30]	[0.29]	[0.30]	[0.30]	[0.30]	[0.31]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05	0.05	0.05*	0.05*	0.05	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.18	0.18	0.16	0.18	0.16	0.15	0.18	0.15	0.14
	[0.19]	[0.18]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.50**	-1.53***	-1.42**	-1.50***	-1.49**	-1.46**	-1.51***	-1.55***	-1.53***
	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.57]	[0.57]	[0.57]
Rel_Deal_value	0.69	0.72	0.71	0.69	0.69	0.67	0.70	0.74	0.73
	[0.47]	[0.48]	[0.48]	[0.47]	[0.47]	[0.47]	[0.48]	[0.49]	[0.49]
dCash	0.80	0.82	0.83	0.79	0.80	0.79	0.79	0.80	0.81
	[0.88]	[0.88]	[0.88]	[0.89]	[0.89]	[0.89]	[0.88]	[0.88]	[0.89]
dCross_border	-0.19	-0.19	-0.33	-0.18	-0.16	-0.53	-0.19	-0.16	-0.43
	[0.92]	[0.92]	[1.20]	[0.92]	[0.93]	[1.18]	[0.91]	[0.91]	[1.17]
dIndustry_related	1.21	1.28	1.40	1.20	1.21	1.25	1.20	1.29	1.34
	[1.02]	[1.04]	[1.04]	[1.01]	[1.01]	[1.01]	[1.01]	[1.02]	[1.03]
Constant	-6.65	-6.75	-5.51	-6.67	-6.56	-6.30	-6.59	-6.69	-6.27
	[7.29]	[7.36]	[7.39]	[7.38]	[7.46]	[7.49]	[7.23]	[7.31]	[7.40]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.073	0.074	0.072	0.068	0.063	0.072	0.075	0.070
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the governance performance (G) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including G performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix F Regression results without year fixed effects

Table F.1: Effect of ESG performance on CAR [-1,1] – No year fixed effects

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.01	-0.00	-0.00	-0.03	-0.04	-0.03	-0.01	-0.02	-0.02
	[0.02]	[0.03]	[0.03]	[0.02]	[0.03]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.30*	4.62		2.49	2.94		2.32*	2.31
		[2.89]	[3.30]		[1.72]	[1.85]		[1.38]	[1.54]
ESGxdCovid		-0.07*	-0.05		-0.01	-0.02		0.04	0.02
		[0.04]	[0.05]		[0.04]	[0.05]		[0.04]	[0.05]
Cul_dis			-0.01			0.20			-0.06
			[0.37]			[0.24]			[0.15]
ESGxCul_dis			-0.00			-0.00			-0.00
			[0.01]			[0.00]			[0.00]
Cul_disxdCovid			0.28			-0.23			-0.03
			[0.48]			[0.47]			[0.26]
ESGxCul_disxdCovid			-0.01			0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.95**	0.90**	0.87**	0.87**	0.78**	0.74**	0.77*	0.70*	0.67*
	[0.42]	[0.42]	[0.42]	[0.38]	[0.37]	[0.38]	[0.39]	[0.39]	[0.39]
Acq_leverage	-2.38	-2.32	-2.39	-2.49	-2.89	-2.78	-2.21	-2.29	-2.31
	[2.73]	[2.73]	[2.76]	[2.69]	[2.69]	[2.71]	[2.67]	[2.66]	[2.68]
Acq_TobinsQ	0.83	0.76	0.70	0.81	0.68	0.62	0.78	0.68	0.62
	[0.55]	[0.53]	[0.53]	[0.54]	[0.54]	[0.54]	[0.55]	[0.54]	[0.55]
Acq_ROA	-0.04	-0.02	-0.02	-0.04	-0.03	-0.03	-0.04	-0.03	-0.03
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.06]
Acq_liquidity	-0.52**	-0.57**	-0.55**	-0.51**	-0.51**	-0.51*	-0.49*	-0.50*	-0.50*
	[0.26]	[0.27]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.30	0.33	0.25	0.49	0.60	0.62	0.45	0.55	0.55
	[0.54]	[0.54]	[0.56]	[0.54]	[0.55]	[0.56]	[0.56]	[0.56]	[0.57]
Tar_leverage	-3.74	-3.91*	-4.05*	-4.06*	-4.46*	-4.59*	-3.78*	-4.05*	-4.06*
	[2.30]	[2.32]	[2.32]	[2.31]	[2.37]	[2.37]	[2.28]	[2.30]	[2.29]
Tar_TobinsQ	-0.27	-0.25	-0.29	-0.22	-0.23	-0.21	-0.21	-0.21	-0.20
	[0.29]	[0.28]	[0.30]	[0.28]	[0.29]	[0.29]	[0.29]	[0.29]	[0.30]
Tar_ROA	0.06**	0.06**	0.06**	0.06**	0.07**	0.06**	0.06**	0.07**	0.07**
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.10	0.11	0.08	0.10	0.10	0.08	0.10	0.10	0.09
	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]
Deal_value	-1.36**	-1.27**	-1.16**	-1.33**	-1.18**	-1.16**	-1.42**	-1.39**	-1.33**
	[0.56]	[0.56]	[0.57]	[0.55]	[0.56]	[0.56]	[0.55]	[0.55]	[0.57]
Rel_Deal_value	0.89**	0.94**	0.91**	0.94**	0.96**	0.93**	0.97**	1.04**	1.01**
	[0.44]	[0.45]	[0.45]	[0.44]	[0.44]	[0.45]	[0.45]	[0.46]	[0.47]
dCash	0.53	0.78	0.85	0.56	0.79	0.84	0.52	0.73	0.78
	[0.88]	[0.86]	[0.86]	[0.88]	[0.87]	[0.88]	[0.88]	[0.87]	[0.87]
dCross_border	-0.31	-0.29	0.08	-0.23	-0.17	0.02	-0.34	-0.33	-0.07
	[0.91]	[0.92]	[1.16]	[0.91]	[0.92]	[1.16]	[0.90]	[0.91]	[1.15]
dIndustry_related	1.26	1.31	1.41	1.29	1.28	1.32	1.22	1.23	1.29
	[1.04]	[1.06]	[1.06]	[1.03]	[1.02]	[1.03]	[1.03]	[1.03]	[1.04]
Constant	-9.09	-10.42	-9.51	-10.36	-11.74*	-11.88*	-8.88	-10.02	-9.89
	[6.96]	[6.95]	[7.00]	[7.08]	[7.07]	[7.12]	[6.90]	[6.89]	[6.96]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.034	0.044	0.041	0.038	0.045	0.040	0.035	0.040	0.036
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model

with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table F.2: Effect of environmental performance on CAR [-1,1] – No year fixed effects

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.00	0.01	0.02	-0.00	-0.01	0.01	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.00**	4.72**		1.91	2.49*		2.78**	2.71*
		[2.20]	[2.37]		[1.26]	[1.37]		[1.35]	[1.48]
ESGxdCovid		-0.07**	-0.06		-0.01	-0.02		0.05*	0.03
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			0.21			0.26			-0.08
			[0.30]			[0.18]			[0.16]
ESGxCul_dis			-0.00			-0.01**			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.11			-0.34			0.07
			[0.44]			[0.39]			[0.25]
ESGxCul_disxdCovid			-0.01			0.00			0.01**
			[0.01]			[0.01]			[0.01]
Acq_size	0.83*	0.80*	0.76*	0.86**	0.79**	0.73*	0.82**	0.81*	0.78*
	[0.44]	[0.44]	[0.44]	[0.38]	[0.38]	[0.38]	[0.42]	[0.41]	[0.42]
Acq_leverage	-2.20	-1.96	-1.85	-2.29	-2.62	-2.32	-2.24	-2.20	-2.15
	[2.74]	[2.73]	[2.77]	[2.74]	[2.74]	[2.74]	[2.67]	[2.68]	[2.71]
Acq_TobinsQ	0.80	0.74	0.69	0.80	0.68	0.60	0.80	0.77	0.70
	[0.55]	[0.51]	[0.53]	[0.54]	[0.54]	[0.54]	[0.55]	[0.53]	[0.54]
Acq_ROA	-0.04	-0.01	-0.02	-0.04	-0.03	-0.03	-0.04	-0.02	-0.03
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.50*	-0.56**	-0.53*	-0.51*	-0.50*	-0.49*	-0.50*	-0.53**	-0.52**
	[0.26]	[0.27]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.35	0.36	0.28	0.37	0.47	0.55	0.39	0.42	0.44
	[0.54]	[0.53]	[0.54]	[0.56]	[0.57]	[0.57]	[0.56]	[0.55]	[0.56]
Tar_leverage	-3.65	-3.87*	-4.07*	-3.72	-4.02*	-4.10*	-3.70	-3.97*	-4.01*
	[2.30]	[2.32]	[2.31]	[2.29]	[2.33]	[2.31]	[2.28]	[2.29]	[2.29]
Tar_TobinsQ	-0.25	-0.22	-0.26	-0.24	-0.24	-0.20	-0.24	-0.26	-0.25
	[0.29]	[0.28]	[0.29]	[0.29]	[0.29]	[0.30]	[0.29]	[0.28]	[0.29]
Tar_ROA	0.06**	0.06**	0.06**	0.06**	0.07**	0.07**	0.06**	0.06**	0.06**
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.11	0.10	0.08	0.10	0.10	0.08	0.10	0.10	0.08
	[0.18]	[0.17]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]
Deal_value	-1.41**	-1.32**	-1.20**	-1.40**	-1.29**	-1.31**	-1.41**	-1.39**	-1.35**
	[0.55]	[0.55]	[0.56]	[0.55]	[0.56]	[0.57]	[0.55]	[0.55]	[0.56]
Rel_Deal_value	0.94**	1.02**	1.00**	0.93**	0.95**	0.90**	0.94**	1.03**	1.01**
	[0.44]	[0.45]	[0.46]	[0.44]	[0.44]	[0.45]	[0.45]	[0.46]	[0.47]
dCash	0.52	0.75	0.86	0.52	0.71	0.76	0.53	0.75	0.78
	[0.88]	[0.87]	[0.86]	[0.88]	[0.88]	[0.88]	[0.89]	[0.88]	[0.88]
dCross_border	-0.37	-0.28	0.01	-0.33	-0.28	-0.06	-0.36	-0.37	-0.04
	[0.94]	[0.94]	[1.18]	[0.91]	[0.92]	[1.15]	[0.91]	[0.92]	[1.17]
dIndustry_related	1.22	1.25	1.23	1.24	1.23	1.27	1.23	1.27	1.32
	[1.03]	[1.04]	[1.04]	[1.04]	[1.03]	[1.04]	[1.03]	[1.03]	[1.04]
Constant	-8.32	-9.77	-9.04	-8.95	-10.25	-10.77	-8.67	-9.81	-9.85
	[7.25]	[7.24]	[7.26]	[7.37]	[7.36]	[7.37]	[6.88]	[6.87]	[6.96]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.034	0.047	0.047	0.034	0.037	0.039	0.034	0.043	0.039
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the environmental performance (E) as main independent variable and the acquirer cumulative abnormal return of the three-day event window as dependent variable (CAR [-1,1]). For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including E performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table F.3: Effect of social performance on CAR [-1,1] – No year fixed effects

	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.02	-0.03	-0.04**	-0.04**	-0.04**	-0.01	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]
dCovid		2.88	2.03		4.14**	4.11*		1.44	1.59
		[2.88]	[3.15]		[2.10]	[2.31]		[1.08]	[1.18]
ESGxdCovid		-0.02	0.00		-0.04	-0.04		-0.02	-0.03
		[0.04]	[0.05]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			-0.23			-0.04			-0.04
			[0.29]			[0.25]			[0.14]
ESGxCul_dis			0.00			0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.52			0.06			-0.10
			[0.48]			[0.46]			[0.24]
ESGxCul_disxdCovid			-0.01*			-0.01			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.96**	0.89**	0.86**	0.89**	0.80**	0.76**	0.82**	0.75**	0.75**
	[0.39]	[0.39]	[0.39]	[0.38]	[0.37]	[0.38]	[0.37]	[0.37]	[0.38]
Acq_leverage	-2.50	-2.71	-2.70	-2.75	-3.26	-3.27	-2.27	-2.68	-2.79
	[2.69]	[2.68]	[2.70]	[2.63]	[2.62]	[2.64]	[2.66]	[2.63]	[2.66]
Acq_TobinsQ	0.85	0.75	0.71	0.83	0.71	0.67	0.79	0.67	0.65
	[0.55]	[0.55]	[0.55]	[0.54]	[0.53]	[0.53]	[0.54]	[0.54]	[0.55]
Acq_ROA	-0.04	-0.02	-0.03	-0.04	-0.02	-0.02	-0.04	-0.04	-0.04
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.06]
Acq_liquidity	-0.55**	-0.56**	-0.56**	-0.49*	-0.51*	-0.50*	-0.48*	-0.47*	-0.47*
	[0.26]	[0.27]	[0.28]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.27	0.32	0.24	0.52	0.55	0.52	0.43	0.48	0.43
	[0.55]	[0.55]	[0.56]	[0.53]	[0.53]	[0.54]	[0.54]	[0.55]	[0.56]
Tar_leverage	-3.75*	-3.98*	-4.04*	-3.97*	-4.27*	-4.37*	-3.73	-3.98*	-3.90*
	[2.28]	[2.28]	[2.28]	[2.23]	[2.22]	[2.23]	[2.27]	[2.26]	[2.26]
Tar_TobinsQ	-0.29	-0.30	-0.33	-0.20	-0.21	-0.22	-0.21	-0.23	-0.25
	[0.30]	[0.30]	[0.31]	[0.28]	[0.29]	[0.29]	[0.29]	[0.29]	[0.30]
Tar_ROA	0.06**	0.07**	0.06**	0.06**	0.06**	0.06**	0.06**	0.06**	0.06**
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.10	0.10	0.09	0.10	0.10	0.09	0.11	0.11	0.10
	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.19]	[0.18]	[0.18]	[0.18]
Deal_value	-1.35**	-1.25**	-1.14**	-1.36**	-1.16**	-1.11*	-1.42***	-1.29**	-1.23**
	[0.56]	[0.56]	[0.57]	[0.54]	[0.56]	[0.57]	[0.55]	[0.56]	[0.57]
Rel_Deal_value	0.87**	0.90**	0.87*	0.97**	1.00**	0.97**	0.97**	0.98**	0.97**
	[0.43]	[0.44]	[0.45]	[0.43]	[0.43]	[0.44]	[0.44]	[0.44]	[0.45]
dCash	0.50	0.70	0.82	0.63	0.88	0.92	0.56	0.74	0.83
	[0.87]	[0.86]	[0.86]	[0.87]	[0.86]	[0.87]	[0.88]	[0.88]	[0.88]
dCross_border	-0.36	-0.36	-0.11	-0.23	-0.19	0.10	-0.30	-0.26	-0.02
	[0.90]	[0.91]	[1.14]	[0.90]	[0.90]	[1.13]	[0.91]	[0.92]	[1.16]
dIndustry_related	1.28	1.28	1.40	1.28	1.29	1.35	1.22	1.19	1.22
	[1.04]	[1.04]	[1.05]	[1.01]	[0.99]	[1.00]	[1.03]	[1.01]	[1.02]
Constant	-7.99	-8.79	-7.88	-10.21	-11.16	-10.66	-9.44	-10.08	-9.95
	[6.99]	[7.02]	[7.06]	[6.85]	[6.84]	[6.95]	[6.99]	[6.95]	[7.00]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.038	0.042	0.040	0.050	0.061	0.054	0.036	0.041	0.035
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the social performance (S) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including S performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table F.4: Effect of governance performance on CAR [-1,1] – No year fixed effects

	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.00	0.00	-0.00	-0.02	-0.01	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		4.87*	4.13		0.70	0.92		2.70**	2.87**
		[2.80]	[3.23]		[1.66]	[1.80]		[1.28]	[1.45]
ESGxdCovid		-0.06*	-0.04		0.03	0.03		0.06*	0.05
		[0.04]	[0.05]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			-0.10			0.21			-0.04
			[0.31]			[0.22]			[0.15]
ESGxCul_dis			0.00			-0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.39			-0.13			-0.13
			[0.42]			[0.44]			[0.25]
ESGxCul_disxdCovid			-0.01*			-0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.89**	0.85**	0.82**	0.86**	0.81**	0.75*	0.86**	0.82**	0.79**
	[0.41]	[0.41]	[0.41]	[0.38]	[0.38]	[0.38]	[0.40]	[0.39]	[0.40]
Acq_leverage	-2.29	-2.25	-2.35	-2.27	-2.65	-2.53	-2.25	-2.29	-2.23
	[2.72]	[2.73]	[2.76]	[2.69]	[2.69]	[2.72]	[2.68]	[2.67]	[2.71]
Acq_TobinsQ	0.81	0.74	0.69	0.80	0.69	0.63	0.80	0.72	0.65
	[0.55]	[0.52]	[0.53]	[0.54]	[0.54]	[0.55]	[0.55]	[0.53]	[0.53]
Acq_ROA	-0.04	-0.02	-0.02	-0.04	-0.04	-0.04	-0.04	-0.03	-0.03
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.55**	-0.54**	-0.51*	-0.49*	-0.49*	-0.50**	-0.52**	-0.52**
	[0.26]	[0.26]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.33	0.35	0.26	0.36	0.46	0.48	0.34	0.41	0.43
	[0.55]	[0.54]	[0.56]	[0.55]	[0.56]	[0.56]	[0.56]	[0.56]	[0.57]
Tar_leverage	-3.70	-3.86*	-4.00*	-3.73	-4.13*	-4.30*	-3.68	-3.90*	-3.96*
	[2.29]	[2.31]	[2.32]	[2.31]	[2.38]	[2.38]	[2.28]	[2.30]	[2.30]
Tar_TobinsQ	-0.25	-0.25	-0.27	-0.25	-0.26	-0.23	-0.25	-0.23	-0.19
	[0.29]	[0.28]	[0.30]	[0.29]	[0.29]	[0.30]	[0.29]	[0.29]	[0.30]
Tar_ROA	0.06**	0.06**	0.06**	0.06**	0.07**	0.06**	0.06**	0.06**	0.06**
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.11	0.11	0.09	0.11	0.09	0.08	0.11	0.08	0.07
	[0.18]	[0.17]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]
Deal_value	-1.39**	-1.29**	-1.18**	-1.39**	-1.28**	-1.25**	-1.40**	-1.39**	-1.36**
	[0.56]	[0.56]	[0.57]	[0.56]	[0.56]	[0.57]	[0.55]	[0.55]	[0.56]
Rel_Deal_value	0.91**	0.95**	0.91**	0.92**	0.95**	0.92**	0.93**	1.01**	0.97**
	[0.44]	[0.45]	[0.46]	[0.44]	[0.45]	[0.45]	[0.45]	[0.47]	[0.47]
dCash	0.53	0.77	0.83	0.52	0.70	0.76	0.52	0.70	0.77
	[0.88]	[0.87]	[0.87]	[0.88]	[0.87]	[0.88]	[0.88]	[0.87]	[0.87]
dCross_border	-0.33	-0.32	0.06	-0.33	-0.27	-0.18	-0.35	-0.33	-0.12
	[0.91]	[0.92]	[1.18]	[0.92]	[0.93]	[1.16]	[0.91]	[0.91]	[1.16]
dIndustry_related	1.25	1.32	1.45	1.24	1.23	1.25	1.23	1.29	1.35
	[1.04]	[1.06]	[1.07]	[1.03]	[1.02]	[1.03]	[1.04]	[1.04]	[1.05]
Constant	-8.78	-10.08	-9.11	-8.79	-9.83	-9.80	-8.63	-9.77	-9.65
	[6.94]	[6.89]	[6.96]	[7.02]	[7.01]	[7.04]	[6.89]	[6.86]	[6.95]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.034	0.042	0.041	0.034	0.038	0.033	0.034	0.045	0.039
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the governance performance (G) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including G performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix G Regression results without industry and year fixed effects

Table G.1: Effect of ESG performance on CAR [-1,1] – No fixed effects

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.01	-0.01	-0.03	-0.04	-0.03	-0.01	-0.02	-0.02
	[0.02]	[0.03]	[0.03]	[0.02]	[0.03]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.73**	5.02		2.70	2.87		2.47*	2.44
		[2.76]	[3.19]		[1.70]	[1.81]		[1.36]	[1.52]
ESGxdCovid		-0.07*	-0.05		-0.01	-0.01		0.04	0.03
		[0.04]	[0.05]		[0.04]	[0.04]		[0.04]	[0.05]
Cul_dis			0.13			0.24			-0.02
			[0.41]			[0.24]			[0.17]
ESGxCul_dis			-0.00			-0.01			-0.00
			[0.01]			[0.00]			[0.00]
Cul_disxdCovid			0.18			-0.10			-0.02
			[0.51]			[0.44]			[0.27]
ESGxCul_disxdCovid			-0.01			-0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.94**	0.92**	0.91**	0.84**	0.76**	0.73**	0.75**	0.71*	0.70*
	[0.39]	[0.39]	[0.39]	[0.36]	[0.36]	[0.36]	[0.37]	[0.36]	[0.37]
Acq_leverage	-1.13	-1.15	-1.17	-1.19	-1.64	-1.45	-0.86	-0.95	-0.85
	[2.78]	[2.76]	[2.80]	[2.75]	[2.73]	[2.76]	[2.73]	[2.69]	[2.73]
Acq_TobinsQ	1.08**	0.99*	0.95*	1.05**	0.91*	0.86	1.02*	0.91*	0.88
	[0.54]	[0.51]	[0.52]	[0.53]	[0.53]	[0.53]	[0.54]	[0.53]	[0.54]
Acq_ROA	-0.05	-0.02	-0.03	-0.05	-0.04	-0.04	-0.05	-0.04	-0.04
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.55**	-0.59**	-0.58**	-0.53**	-0.54**	-0.53**	-0.52**	-0.53**	-0.53**
	[0.26]	[0.27]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.22	0.23	0.15	0.44	0.55	0.57	0.38	0.47	0.46
	[0.54]	[0.54]	[0.55]	[0.54]	[0.55]	[0.55]	[0.55]	[0.56]	[0.57]
Tar_leverage	-3.86*	-4.17*	-4.23*	-4.22*	-4.71**	-4.87**	-3.87*	-4.20*	-4.15*
	[2.23]	[2.27]	[2.27]	[2.25]	[2.31]	[2.32]	[2.22]	[2.25]	[2.26]
Tar_TobinsQ	-0.26	-0.25	-0.29	-0.20	-0.20	-0.19	-0.20	-0.19	-0.18
	[0.29]	[0.28]	[0.29]	[0.28]	[0.28]	[0.29]	[0.28]	[0.28]	[0.29]
Tar_ROA	0.05*	0.05*	0.05	0.05*	0.05*	0.05*	0.05*	0.05*	0.05*
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.10	0.10	0.08	0.10	0.09	0.07	0.10	0.08	0.07
	[0.18]	[0.18]	[0.18]	[0.19]	[0.19]	[0.19]	[0.18]	[0.18]	[0.18]
Deal_value	-1.12**	-1.01*	-0.91	-1.09**	-0.94*	-0.92*	-1.20**	-1.17**	-1.13**
	[0.56]	[0.56]	[0.57]	[0.55]	[0.56]	[0.56]	[0.56]	[0.56]	[0.57]
Rel_Deal_value	0.84*	0.90*	0.89*	0.94**	0.98**	0.95**	0.96**	1.05**	1.04**
	[0.46]	[0.47]	[0.47]	[0.47]	[0.47]	[0.48]	[0.48]	[0.49]	[0.49]
dCash	0.99	1.21	1.26	1.00	1.24	1.25	0.95	1.13	1.18
	[0.88]	[0.87]	[0.88]	[0.88]	[0.88]	[0.88]	[0.89]	[0.88]	[0.88]
dCross_border	-0.19	-0.21	-0.01	-0.10	-0.07	-0.06	-0.25	-0.28	-0.22
	[0.91]	[0.91]	[1.16]	[0.91]	[0.92]	[1.15]	[0.90]	[0.90]	[1.15]
dIndustry_related	0.96	1.06	1.11	0.91	0.92	0.98	0.89	0.93	0.94
	[0.95]	[0.95]	[0.95]	[0.94]	[0.93]	[0.94]	[0.95]	[0.94]	[0.95]
Constant	-9.89	-11.50*	-10.95	-11.25	-12.84*	-13.06*	-9.72	-11.09	-11.07
	[6.77]	[6.82]	[6.85]	[6.88]	[6.96]	[6.98]	[6.80]	[6.85]	[6.92]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.011	0.023	0.020	0.016	0.024	0.020	0.011	0.018	0.011
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	No	No	No	No	No	No	No	No	No

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table G.2: Effect of environmental performance on CAR [-1,1] – No fixed effects

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.01	0.00	0.01	-0.01	-0.01	0.00	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.05**	4.84**		2.09*	2.49*		2.83**	2.78*
		[2.09]	[2.29]		[1.24]	[1.34]		[1.31]	[1.45]
ESGxdCovid		-0.07**	-0.06		-0.01	-0.02		0.05*	0.04
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			0.34			0.29			-0.03
			[0.32]			[0.18]			[0.18]
ESGxCul_dis			-0.01			-0.01**			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			-0.04			-0.23			0.03
			[0.45]			[0.38]			[0.27]
ESGxCul_disxdCovid			-0.00			0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.89**	0.88**	0.88**	0.83**	0.76**	0.71*	0.81**	0.82**	0.81**
	[0.40]	[0.40]	[0.40]	[0.36]	[0.36]	[0.36]	[0.39]	[0.39]	[0.39]
Acq_leverage	-1.04	-0.90	-0.74	-1.05	-1.46	-1.04	-0.91	-0.90	-0.76
	[2.79]	[2.76]	[2.81]	[2.81]	[2.80]	[2.80]	[2.73]	[2.71]	[2.76]
Acq_TobinsQ	1.05**	0.96*	0.91*	1.03*	0.89*	0.82	1.04*	1.00*	0.96*
	[0.53]	[0.50]	[0.52]	[0.53]	[0.53]	[0.53]	[0.53]	[0.52]	[0.53]
Acq_ROA	-0.05	-0.02	-0.03	-0.05	-0.04	-0.04	-0.05	-0.03	-0.04
	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.54**	-0.59**	-0.56**	-0.53**	-0.53**	-0.51**	-0.53**	-0.56**	-0.55**
	[0.26]	[0.27]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.27	0.27	0.19	0.36	0.48	0.55	0.30	0.32	0.32
	[0.53]	[0.53]	[0.54]	[0.56]	[0.57]	[0.56]	[0.55]	[0.55]	[0.56]
Tar_leverage	-3.82*	-4.12*	-4.17*	-3.89*	-4.28*	-4.36*	-3.78*	-4.10*	-4.06*
	[2.24]	[2.26]	[2.25]	[2.23]	[2.29]	[2.27]	[2.22]	[2.23]	[2.25]
Tar_TobinsQ	-0.24	-0.22	-0.26	-0.21	-0.22	-0.17	-0.23	-0.25	-0.24
	[0.28]	[0.28]	[0.28]	[0.28]	[0.29]	[0.30]	[0.28]	[0.28]	[0.29]
Tar_ROA	0.05*	0.05*	0.05	0.05*	0.05*	0.05*	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.10	0.09	0.08	0.10	0.09	0.08	0.10	0.09	0.08
	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]	[0.18]
Deal_value	-1.17**	-1.06*	-0.96*	-1.17**	-1.06*	-1.09*	-1.19**	-1.14**	-1.12**
	[0.56]	[0.55]	[0.56]	[0.56]	[0.56]	[0.56]	[0.56]	[0.55]	[0.56]
Rel_Deal_value	0.88*	0.94**	0.93**	0.91*	0.94**	0.91*	0.92*	1.01**	1.00**
	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.48]	[0.48]
dCash	0.95	1.15	1.20	0.97	1.16	1.20	0.96	1.15	1.18
	[0.88]	[0.87]	[0.87]	[0.89]	[0.89]	[0.89]	[0.89]	[0.88]	[0.88]
dCross_border	-0.20	-0.16	-0.04	-0.20	-0.17	-0.14	-0.26	-0.32	-0.21
	[0.94]	[0.94]	[1.18]	[0.91]	[0.92]	[1.15]	[0.90]	[0.90]	[1.16]
dIndustry_related	0.93	1.02	0.98	0.94	0.96	0.98	0.92	0.97	0.98
	[0.95]	[0.95]	[0.95]	[0.95]	[0.94]	[0.95]	[0.94]	[0.93]	[0.95]
Constant	-9.94	-11.70*	-11.42	-10.37	-11.94*	-12.51*	-9.44	-10.78	-10.83
	[6.97]	[7.02]	[7.01]	[7.11]	[7.18]	[7.15]	[6.77]	[6.80]	[6.88]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.010	0.024	0.024	0.010	0.015	0.018	0.010	0.020	0.012
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	No	No	No	No	No	No	No	No	No

Note. This table displays the estimation results of the regression models with the environmental performance (E) as main independent variable and the acquirer cumulative abnormal return of the three-day event window as dependent variable (CAR [-1,1]). For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including E performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table G.3: Effect of social performance on CAR [-1,1] – No fixed effects

	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.03*	-0.03	-0.03	-0.05***	-0.05**	-0.05**	-0.01	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]
dCovid		3.75	2.82		4.42**	4.22*		1.58	1.65
		[2.87]	[3.17]		[2.12]	[2.32]		[1.07]	[1.18]
ESGxdCovid		-0.03	-0.01		-0.05	-0.04		-0.02	-0.03
		[0.04]	[0.05]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			-0.08			-0.03			0.00
			[0.30]			[0.26]			[0.15]
ESGxCul_dis			0.00			0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.44			0.15			-0.07
			[0.48]			[0.43]			[0.24]
ESGxCul_disxdCovid			-0.01*			-0.01			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.92**	0.86**	0.85**	0.87**	0.78**	0.75**	0.80**	0.74**	0.74**
	[0.37]	[0.37]	[0.37]	[0.36]	[0.36]	[0.36]	[0.35]	[0.35]	[0.36]
Acq_leverage	-1.32	-1.58	-1.49	-1.55	-2.15	-2.10	-0.91	-1.31	-1.31
	[2.76]	[2.74]	[2.76]	[2.69]	[2.66]	[2.69]	[2.72]	[2.68]	[2.72]
Acq_TobinsQ	1.08**	0.97*	0.93*	1.06**	0.93*	0.90*	1.03*	0.92*	0.90*
	[0.53]	[0.53]	[0.53]	[0.53]	[0.52]	[0.52]	[0.53]	[0.53]	[0.54]
Acq_ROA	-0.04	-0.03	-0.03	-0.04	-0.03	-0.03	-0.05	-0.04	-0.05
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.57**	-0.59**	-0.58**	-0.52**	-0.54**	-0.53**	-0.51*	-0.50*	-0.50*
	[0.26]	[0.27]	[0.27]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.20	0.25	0.17	0.48	0.52	0.50	0.37	0.42	0.37
	[0.54]	[0.55]	[0.55]	[0.52]	[0.53]	[0.53]	[0.54]	[0.55]	[0.56]
Tar_leverage	-3.83*	-4.15*	-4.19*	-4.19*	-4.64**	-4.75**	-3.86*	-4.17*	-4.03*
	[2.21]	[2.24]	[2.24]	[2.17]	[2.17]	[2.20]	[2.20]	[2.22]	[2.23]
Tar_TobinsQ	-0.29	-0.29	-0.33	-0.18	-0.19	-0.19	-0.19	-0.21	-0.23
	[0.29]	[0.30]	[0.30]	[0.28]	[0.28]	[0.29]	[0.29]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05*	0.05*	0.05*	0.05*	0.05*	0.05*	0.05*	0.05*
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.11	0.10	0.08	0.09	0.08	0.07	0.10	0.09	0.08
	[0.18]	[0.18]	[0.18]	[0.19]	[0.19]	[0.19]	[0.18]	[0.18]	[0.19]
Deal_value	-1.12**	-1.02*	-0.91	-1.16**	-0.96*	-0.92	-1.21**	-1.09*	-1.04*
	[0.56]	[0.57]	[0.57]	[0.55]	[0.56]	[0.56]	[0.56]	[0.56]	[0.57]
Rel_Deal_value	0.80*	0.84*	0.82*	0.98**	1.02**	0.99**	0.97**	1.00**	1.00**
	[0.46]	[0.46]	[0.47]	[0.46]	[0.46]	[0.46]	[0.47]	[0.47]	[0.48]
dCash	0.92	1.12	1.20	1.03	1.28	1.30	0.99	1.17	1.24
	[0.87]	[0.87]	[0.87]	[0.87]	[0.87]	[0.87]	[0.88]	[0.88]	[0.88]
dCross_border	-0.26	-0.30	-0.20	-0.11	-0.12	0.04	-0.22	-0.22	-0.15
	[0.89]	[0.89]	[1.13]	[0.88]	[0.89]	[1.12]	[0.90]	[0.91]	[1.16]
dIndustry_related	1.03	1.07	1.16	0.94	0.99	1.06	0.88	0.88	0.87
	[0.94]	[0.94]	[0.95]	[0.92]	[0.90]	[0.91]	[0.94]	[0.94]	[0.95]
Constant	-8.41	-9.41	-8.76	-11.14*	-12.18*	-11.74*	-10.26	-11.07	-10.94
	[6.91]	[7.00]	[7.04]	[6.71]	[6.76]	[6.86]	[6.91]	[6.93]	[6.98]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.017	0.024	0.020	0.031	0.045	0.038	0.012	0.018	0.010
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	No	No	No	No	No	No	No	No	No

Note. This table displays the estimation results of the regression models with the social performance (S) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including S performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table G.4: Effect of governance performance on CAR [-1,1] – No fixed effects

	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.00	-0.00	-0.02	-0.01	-0.00	-0.02	-0.01
	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		5.25**	4.36		0.88	0.83		2.89**	3.02**
		[2.66]	[3.08]		[1.62]	[1.73]		[1.27]	[1.43]
ESGxdCovid		-0.06*	-0.04		0.02	0.03		0.06**	0.06
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			-0.05			0.24			-0.01
			[0.35]			[0.22]			[0.16]
ESGxCul_dis			0.00			-0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.41			-0.00			-0.10
			[0.45]			[0.42]			[0.25]
ESGxCul_disxdCovid			-0.01*			-0.00			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.84**	0.83**	0.82**	0.83**	0.78**	0.74**	0.82**	0.80**	0.78**
	[0.38]	[0.38]	[0.38]	[0.36]	[0.36]	[0.36]	[0.38]	[0.37]	[0.37]
Acq_leverage	-0.93	-0.94	-0.95	-0.93	-1.33	-1.16	-0.91	-0.97	-0.80
	[2.77]	[2.76]	[2.79]	[2.75]	[2.74]	[2.76]	[2.74]	[2.70]	[2.74]
Acq_TobinsQ	1.05*	0.96*	0.93*	1.04*	0.93*	0.87	1.04*	0.95*	0.89*
	[0.54]	[0.52]	[0.53]	[0.53]	[0.53]	[0.54]	[0.54]	[0.52]	[0.52]
Acq_ROA	-0.05	-0.03	-0.03	-0.05	-0.05	-0.05	-0.05	-0.04	-0.03
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.53**	-0.57**	-0.56**	-0.53**	-0.52**	-0.51**	-0.53**	-0.55**	-0.55**
	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]	[0.26]
Tar_size	0.28	0.28	0.20	0.30	0.39	0.42	0.30	0.35	0.37
	[0.54]	[0.54]	[0.55]	[0.54]	[0.55]	[0.55]	[0.56]	[0.55]	[0.56]
Tar_leverage	-3.78*	-4.07*	-4.15*	-3.84*	-4.27*	-4.47*	-3.79*	-4.06*	-4.07*
	[2.23]	[2.26]	[2.27]	[2.26]	[2.32]	[2.32]	[2.23]	[2.25]	[2.26]
Tar_TobinsQ	-0.23	-0.23	-0.25	-0.23	-0.24	-0.22	-0.23	-0.21	-0.17
	[0.28]	[0.28]	[0.29]	[0.28]	[0.29]	[0.29]	[0.29]	[0.28]	[0.29]
Tar_ROA	0.05*	0.05*	0.05	0.05*	0.05*	0.05*	0.05*	0.05*	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.10	0.10	0.08	0.10	0.09	0.07	0.10	0.07	0.06
	[0.18]	[0.18]	[0.18]	[0.18]	[0.19]	[0.19]	[0.18]	[0.18]	[0.18]
Deal_value	-1.18**	-1.07*	-0.97*	-1.17**	-1.05*	-1.03*	-1.19**	-1.16**	-1.14**
	[0.57]	[0.57]	[0.58]	[0.57]	[0.56]	[0.57]	[0.56]	[0.55]	[0.56]
Rel_Deal_value	0.90*	0.94**	0.93*	0.91*	0.95**	0.92*	0.92*	1.02**	0.99**
	[0.47]	[0.47]	[0.48]	[0.47]	[0.47]	[0.48]	[0.47]	[0.49]	[0.49]
dCash	0.96	1.18	1.23	0.96	1.15	1.15	0.95	1.10	1.17
	[0.89]	[0.89]	[0.89]	[0.89]	[0.88]	[0.88]	[0.89]	[0.88]	[0.89]
dCross_border	-0.25	-0.29	-0.08	-0.23	-0.19	-0.27	-0.26	-0.28	-0.24
	[0.91]	[0.91]	[1.18]	[0.92]	[0.93]	[1.16]	[0.90]	[0.90]	[1.15]
dIndustry_related	0.93	1.04	1.13	0.92	0.90	0.95	0.92	0.98	1.00
	[0.95]	[0.95]	[0.95]	[0.94]	[0.94]	[0.95]	[0.95]	[0.94]	[0.95]
Constant	-9.45	-11.00	-10.29	-9.58	-10.78	-10.87	-9.42	-10.80	-10.82
	[6.79]	[6.81]	[6.86]	[6.85]	[6.89]	[6.90]	[6.77]	[6.78]	[6.87]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.010	0.021	0.018	0.010	0.015	0.011	0.010	0.023	0.016
Year F.E.	No	No	No	No	No	No	No	No	No
Industry F.E.	No	No	No	No	No	No	No	No	No

Note. This table displays the estimation results of the regression models with the governance performance (G) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including G performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix H Regression results alternative AR model

Table H.1: Effect of ESG performance on CAR [-1,1] – Alternative AR model

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.00	0.00	-0.04	-0.03	-0.03	-0.02	-0.02	-0.02
	[0.02]	[0.03]	[0.03]	[0.02]	[0.03]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		3.68	2.47		2.04	1.46		1.79	1.58
		[4.08]	[4.38]		[2.82]	[2.95]		[2.97]	[3.13]
ESGxdCovid		-0.06*	-0.03		-0.02	-0.01		0.03	0.01
		[0.04]	[0.05]		[0.04]	[0.05]		[0.04]	[0.05]
Cul_dis			0.26			0.21			0.15
			[0.35]			[0.22]			[0.16]
ESGxCul_dis			-0.00			-0.00			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.16			-0.12			-0.13
			[0.49]			[0.49]			[0.27]
ESGxCul_disxdCovid			-0.01			-0.00			0.01
			[0.01]			[0.01]			[0.01]
Acq_size	0.82*	0.79*	0.75*	0.70*	0.69*	0.66*	0.59	0.60	0.56
	[0.43]	[0.44]	[0.44]	[0.38]	[0.38]	[0.38]	[0.39]	[0.39]	[0.39]
Acq_leverage	-1.60	-1.27	-1.01	-1.83	-1.83	-1.46	-1.37	-1.26	-1.01
	[2.68]	[2.71]	[2.76]	[2.65]	[2.67]	[2.70]	[2.62]	[2.63]	[2.67]
Acq_TobinsQ	0.81	0.84*	0.83	0.77	0.77	0.77	0.76	0.77	0.77
	[0.51]	[0.49]	[0.51]	[0.50]	[0.50]	[0.51]	[0.51]	[0.50]	[0.52]
Acq_ROA	-0.03	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.03	-0.03
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.46*	-0.50*	-0.48*	-0.45*	-0.46*	-0.46*	-0.43*	-0.43*	-0.43*
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.11	0.10	0.01	0.37	0.35	0.35	0.30	0.31	0.27
	[0.56]	[0.56]	[0.57]	[0.58]	[0.58]	[0.59]	[0.59]	[0.59]	[0.60]
Tar_leverage	-3.74	-3.63	-3.79	-4.17*	-4.11*	-4.24*	-3.73	-3.73	-3.71
	[2.34]	[2.36]	[2.37]	[2.39]	[2.41]	[2.42]	[2.32]	[2.34]	[2.34]
Tar_TobinsQ	-0.43	-0.40	-0.46	-0.37	-0.37	-0.39	-0.35	-0.35	-0.38
	[0.30]	[0.29]	[0.31]	[0.29]	[0.29]	[0.30]	[0.30]	[0.29]	[0.31]
Tar_ROA	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.22	0.22	0.20	0.21	0.21	0.20	0.22	0.21	0.21
	[0.16]	[0.16]	[0.16]	[0.16]	[0.17]	[0.17]	[0.16]	[0.16]	[0.17]
Deal_value	-1.08*	-1.08*	-0.99*	-1.02*	-0.99*	-0.98*	-1.15**	-1.18**	-1.12*
	[0.58]	[0.58]	[0.58]	[0.56]	[0.56]	[0.57]	[0.57]	[0.57]	[0.58]
Rel_Deal_value	0.63	0.66	0.64	0.68	0.67	0.66	0.73	0.74	0.74
	[0.49]	[0.49]	[0.50]	[0.49]	[0.49]	[0.49]	[0.50]	[0.51]	[0.51]
dCash	0.84	0.88	0.89	0.89	0.90	0.88	0.83	0.85	0.85
	[0.87]	[0.87]	[0.87]	[0.87]	[0.88]	[0.88]	[0.87]	[0.87]	[0.87]
dCross_border	-0.36	-0.35	-0.68	-0.23	-0.23	-0.67	-0.37	-0.36	-0.74
	[0.90]	[0.90]	[1.16]	[0.90]	[0.91]	[1.16]	[0.89]	[0.90]	[1.15]
dIndustry_related	1.73*	1.77*	1.85*	1.75*	1.75*	1.81*	1.66	1.69	1.72*
	[1.03]	[1.05]	[1.05]	[1.02]	[1.02]	[1.02]	[1.02]	[1.03]	[1.03]
Constant	-4.28	-4.46	-3.39	-6.04	-5.86	-5.54	-3.95	-4.05	-3.47
	[7.72]	[7.83]	[7.80]	[7.91]	[7.94]	[8.01]	[7.62]	[7.69]	[7.73]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.071	0.070	0.069	0.078	0.073	0.068	0.072	0.068	0.065
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable, calculated based on the alternative market model outlined in Section 5.3. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table H.2: Effect of environmental performance on CAR [-1,1] – Alternative AR model

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.00	0.01	0.02	-0.01	-0.01	0.00	-0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
dCovid		3.87	2.98		1.05	0.56		1.91	1.51
		[3.47]	[3.61]		[2.70]	[2.86]		[2.80]	[2.95]
ESGxdCovid		-0.06**	-0.05		-0.01	-0.02		0.05*	0.03
		[0.04]	[0.04]		[0.04]	[0.04]		[0.03]	[0.03]
Cul_dis			0.40			0.30*			0.13
			[0.28]			[0.17]			[0.17]
ESGxCul_dis			-0.00			-0.01			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.00			-0.30			-0.03
			[0.47]			[0.42]			[0.26]
ESGxCul_disxdCovid			-0.01			0.00			0.01*
			[0.01]			[0.01]			[0.01]
Acq_size	0.75	0.72	0.70	0.71*	0.70*	0.65*	0.68	0.72*	0.68
	[0.46]	[0.46]	[0.46]	[0.38]	[0.39]	[0.39]	[0.42]	[0.42]	[0.42]
Acq_leverage	-1.47	-0.97	-0.56	-1.53	-1.52	-1.03	-1.40	-1.14	-0.76
	[2.70]	[2.72]	[2.77]	[2.71]	[2.71]	[2.74]	[2.63]	[2.67]	[2.70]
Acq_TobinsQ	0.79	0.83*	0.82*	0.78	0.77	0.74	0.79	0.85*	0.83
	[0.50]	[0.48]	[0.49]	[0.50]	[0.50]	[0.51]	[0.50]	[0.49]	[0.51]
Acq_ROA	-0.03	-0.01	-0.02	-0.03	-0.03	-0.03	-0.04	-0.03	-0.03
	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.45*	-0.50*	-0.47*	-0.44*	-0.45*	-0.44*	-0.44*	-0.47*	-0.46*
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.15	0.12	0.04	0.23	0.23	0.27	0.19	0.17	0.16
	[0.56]	[0.55]	[0.56]	[0.61]	[0.61]	[0.62]	[0.59]	[0.59]	[0.60]
Tar_leverage	-3.66	-3.60	-3.84	-3.74	-3.71	-3.82	-3.64	-3.64	-3.69
	[2.34]	[2.35]	[2.35]	[2.36]	[2.37]	[2.37]	[2.31]	[2.32]	[2.32]
Tar_TobinsQ	-0.41	-0.37	-0.42	-0.39	-0.38	-0.37	-0.39	-0.40	-0.42
	[0.29]	[0.28]	[0.29]	[0.29]	[0.30]	[0.31]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.04	0.04
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.22	0.21	0.20	0.22	0.22	0.21	0.22	0.21	0.20
	[0.16]	[0.16]	[0.16]	[0.16]	[0.16]	[0.16]	[0.16]	[0.16]	[0.16]
Deal_value	-1.13**	-1.11*	-1.02*	-1.12*	-1.10*	-1.11*	-1.14**	-1.17**	-1.14**
	[0.57]	[0.57]	[0.57]	[0.57]	[0.58]	[0.58]	[0.57]	[0.57]	[0.58]
Rel_Deal_value	0.66	0.72	0.70	0.67	0.67	0.65	0.68	0.72	0.72
	[0.49]	[0.49]	[0.49]	[0.49]	[0.49]	[0.49]	[0.50]	[0.51]	[0.51]
dCash	0.82	0.87	0.90	0.84	0.84	0.84	0.83	0.87	0.86
	[0.88]	[0.88]	[0.87]	[0.88]	[0.88]	[0.89]	[0.88]	[0.88]	[0.88]
dCross_border	-0.37	-0.31	-0.70	-0.35	-0.34	-0.76	-0.41	-0.41	-0.75
	[0.93]	[0.93]	[1.18]	[0.90]	[0.90]	[1.14]	[0.90]	[0.90]	[1.16]
dIndustry_related	1.69*	1.72*	1.71*	1.70*	1.70*	1.75*	1.68	1.74*	1.75*
	[1.02]	[1.04]	[1.04]	[1.03]	[1.03]	[1.04]	[1.02]	[1.03]	[1.03]
Constant	-4.03	-4.18	-3.55	-4.59	-4.52	-4.84	-3.66	-3.78	-3.43
	[8.08]	[8.21]	[8.13]	[8.20]	[8.27]	[8.27]	[7.60]	[7.70]	[7.77]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.070	0.074	0.075	0.070	0.066	0.063	0.070	0.070	0.067
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the environmental performance (E) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable, calculated based on the alternative market model outlined in Section 5.3. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including E performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table H.3: Effect of social performance on CAR [-1,1] – Alternative AR model

	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.02	-0.02	-0.02	-0.05***	-0.04**	-0.05**	-0.02*	-0.02	-0.02
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]
dCovid		1.21	-0.12		3.92	3.40		1.11	1.14
		[4.16]	[4.39]		[2.92]	[3.11]		[2.72]	[2.92]
ESGxdCovid		-0.02	0.01		-0.05	-0.03		-0.03	-0.04
		[0.04]	[0.05]		[0.04]	[0.05]		[0.04]	[0.04]
Cul_dis			0.16			-0.03			0.17
			[0.28]			[0.23]			[0.14]
ESGxCul_dis			-0.00			0.00			0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.26			0.18			-0.21
			[0.52]			[0.46]			[0.24]
ESGxCul_disxdCovid			-0.01			-0.01			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.78**	0.77*	0.75*	0.72*	0.71*	0.65*	0.64*	0.65*	0.62*
	[0.39]	[0.40]	[0.40]	[0.37]	[0.37]	[0.37]	[0.37]	[0.37]	[0.38]
Acq_leverage	-1.61	-1.56	-1.21	-2.26	-2.39	-2.02	-1.52	-1.74	-1.50
	[2.63]	[2.65]	[2.68]	[2.55]	[2.56]	[2.59]	[2.60]	[2.60]	[2.64]
Acq_TobinsQ	0.82	0.82	0.82	0.80	0.81*	0.80	0.77	0.77	0.78
	[0.51]	[0.51]	[0.52]	[0.50]	[0.49]	[0.49]	[0.50]	[0.50]	[0.51]
Acq_ROA	-0.03	-0.03	-0.03	-0.02	-0.02	-0.02	-0.04	-0.04	-0.04
	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.48*	-0.49*	-0.47*	-0.43*	-0.46*	-0.46*	-0.40	-0.40	-0.39
	[0.25]	[0.26]	[0.26]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.09	0.09	0.01	0.41	0.33	0.31	0.32	0.28	0.24
	[0.56]	[0.57]	[0.57]	[0.55]	[0.55]	[0.56]	[0.57]	[0.57]	[0.58]
Tar_leverage	-3.73	-3.72	-3.82	-4.11*	-4.00*	-4.04*	-3.70	-3.65	-3.55
	[2.31]	[2.33]	[2.32]	[2.24]	[2.22]	[2.24]	[2.29]	[2.27]	[2.27]
Tar_TobinsQ	-0.45	-0.44	-0.49	-0.36	-0.36	-0.37	-0.33	-0.34	-0.38
	[0.30]	[0.30]	[0.31]	[0.29]	[0.29]	[0.29]	[0.29]	[0.30]	[0.30]
Tar_ROA	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.04
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.22	0.22	0.20	0.21	0.22	0.21	0.22	0.23	0.22
	[0.16]	[0.16]	[0.17]	[0.17]	[0.17]	[0.17]	[0.16]	[0.17]	[0.17]
Deal_value	-1.07*	-1.06*	-0.97*	-1.04*	-0.96*	-0.92	-1.17**	-1.13**	-1.09*
	[0.58]	[0.59]	[0.59]	[0.56]	[0.56]	[0.56]	[0.57]	[0.57]	[0.58]
Rel_Deal_value	0.63	0.63	0.59	0.72	0.71	0.68	0.74	0.73	0.70
	[0.49]	[0.49]	[0.50]	[0.47]	[0.47]	[0.47]	[0.49]	[0.49]	[0.49]
dCash	0.82	0.84	0.86	0.96	0.96	0.97	0.88	0.86	0.89
	[0.87]	[0.87]	[0.88]	[0.86]	[0.87]	[0.88]	[0.87]	[0.88]	[0.88]
dCross_border	-0.42	-0.42	-0.84	-0.21	-0.21	-0.53	-0.30	-0.28	-0.65
	[0.89]	[0.90]	[1.14]	[0.88]	[0.88]	[1.14]	[0.89]	[0.90]	[1.16]
dIndustry_related	1.73*	1.74*	1.85*	1.74*	1.78*	1.84*	1.65	1.66*	1.67*
	[1.02]	[1.03]	[1.04]	[0.99]	[0.99]	[0.99]	[1.01]	[1.00]	[1.00]
Constant	-3.10	-3.17	-2.22	-6.09	-5.70	-4.60	-5.18	-4.83	-4.18
	[7.65]	[7.73]	[7.73]	[7.50]	[7.47]	[7.62]	[7.68]	[7.60]	[7.66]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.073	0.069	0.067	0.097	0.096	0.092	0.077	0.075	0.070
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the social performance (S) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable, calculated based on the alternative market model outlined in Section 5.3. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including S performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table H.4: Effect of governance performance on CAR [-1,1] – Alternative AR model

	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.01	0.00	0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.02]
dCovid		3.39	2.17		0.10	-0.85		1.88	1.59
		[3.84]	[4.19]		[2.84]	[3.02]		[2.76]	[2.95]
ESGxdCovid		-0.05*	-0.02		0.02	0.03		0.05*	0.04
		[0.03]	[0.04]		[0.04]	[0.04]		[0.03]	[0.04]
Cul_dis			0.07			0.25			0.12
			[0.30]			[0.21]			[0.15]
ESGxCul_dis			0.00			-0.00			-0.00
			[0.00]			[0.00]			[0.00]
Cul_disxdCovid			0.39			-0.03			-0.18
			[0.42]			[0.46]			[0.24]
ESGxCul_disxdCovid			-0.01*			-0.01			0.00
			[0.01]			[0.01]			[0.01]
Acq_size	0.76*	0.74*	0.68	0.71*	0.72*	0.67*	0.73*	0.75*	0.70*
	[0.42]	[0.42]	[0.42]	[0.38]	[0.39]	[0.39]	[0.40]	[0.40]	[0.41]
Acq_leverage	-1.49	-1.21	-0.89	-1.42	-1.49	-1.09	-1.41	-1.26	-0.90
	[2.68]	[2.71]	[2.76]	[2.66]	[2.69]	[2.72]	[2.63]	[2.65]	[2.70]
Acq_TobinsQ	0.80	0.82*	0.81	0.79	0.78	0.78	0.80	0.81*	0.79
	[0.51]	[0.49]	[0.51]	[0.50]	[0.51]	[0.52]	[0.51]	[0.49]	[0.50]
Acq_ROA	-0.03	-0.02	-0.03	-0.03	-0.04	-0.04	-0.03	-0.03	-0.03
	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.45*	-0.48*	-0.47*	-0.44*	-0.43*	-0.43*	-0.44*	-0.46*	-0.47*
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.13	0.13	0.04	0.17	0.17	0.18	0.14	0.15	0.16
	[0.56]	[0.56]	[0.57]	[0.58]	[0.59]	[0.59]	[0.59]	[0.58]	[0.60]
Tar_leverage	-3.68	-3.56	-3.70	-3.66	-3.70	-3.88	-3.60	-3.57	-3.62
	[2.33]	[2.35]	[2.36]	[2.37]	[2.41]	[2.42]	[2.32]	[2.33]	[2.34]
Tar_TobinsQ	-0.42	-0.39	-0.42	-0.40	-0.40	-0.41	-0.41	-0.38	-0.37
	[0.30]	[0.29]	[0.30]	[0.29]	[0.30]	[0.30]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.22	0.23	0.21	0.22	0.21	0.20	0.22	0.20	0.19
	[0.16]	[0.16]	[0.16]	[0.16]	[0.17]	[0.17]	[0.16]	[0.16]	[0.16]
Deal_value	-1.10*	-1.13*	-1.03*	-1.13*	-1.13*	-1.10*	-1.14**	-1.18**	-1.16**
	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.57]	[0.58]
Rel_Deal_value	0.65	0.68	0.65	0.67	0.68	0.65	0.66	0.71	0.70
	[0.49]	[0.50]	[0.50]	[0.49]	[0.49]	[0.49]	[0.50]	[0.51]	[0.51]
dCash	0.85	0.87	0.87	0.83	0.83	0.80	0.83	0.84	0.83
	[0.88]	[0.87]	[0.88]	[0.87]	[0.88]	[0.88]	[0.87]	[0.87]	[0.88]
dCross_border	-0.38	-0.39	-0.69	-0.39	-0.37	-0.90	-0.41	-0.39	-0.79
	[0.90]	[0.90]	[1.18]	[0.91]	[0.91]	[1.16]	[0.89]	[0.90]	[1.15]
dIndustry_related	1.71*	1.77*	1.89*	1.69*	1.69*	1.73*	1.69	1.77*	1.81*
	[1.03]	[1.05]	[1.05]	[1.02]	[1.02]	[1.03]	[1.03]	[1.03]	[1.04]
Constant	-3.98	-4.12	-2.78	-3.76	-3.73	-3.39	-3.64	-3.80	-3.44
	[7.68]	[7.77]	[7.79]	[7.77]	[7.85]	[7.87]	[7.60]	[7.70]	[7.79]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.070	0.069	0.070	0.070	0.065	0.061	0.070	0.071	0.065
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with the governance performance (G) as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable, calculated based on the alternative market model outlined in Section 5.3. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including G performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix I Regression results alternative ESG measure

Table I.1: Effect of ESG performance on CAR [-1,1] – High-ESG dummy

	Acquirer ESG			Target ESG			Relative ESG		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.04	0.17	0.27	-1.37	-1.22	-1.19	0.68	-0.20	-0.14
	[0.97]	[1.03]	[1.12]	[0.90]	[1.02]	[1.15]	[0.91]	[0.97]	[1.06]
dCovid		2.30	2.22		2.69	2.99		0.88	1.89
		[3.30]	[3.59]		[2.69]	[2.78]		[2.45]	[2.57]
ESGxdCovid		-0.50	-0.07		-0.61	-0.94		3.55*	2.40
		[2.05]	[2.28]		[1.92]	[2.09]		[1.94]	[2.09]
Cul_dis			0.19			0.17			0.10
			[0.21]			[0.19]			[0.14]
ESGxCul_dis			-0.12			-0.08			0.02
			[0.21]			[0.21]			[0.21]
Cul_disxdCovid			-0.17			-0.43			-0.53**
			[0.35]			[0.42]			[0.22]
ESGxCul_disxdCovid			-0.31			0.26			0.68
			[0.41]			[0.50]			[0.42]
Acq_size	0.73*	0.72*	0.70*	0.70*	0.68*	0.66*	0.81**	0.81**	0.78*
	[0.41]	[0.41]	[0.41]	[0.38]	[0.38]	[0.38]	[0.40]	[0.40]	[0.40]
Acq_leverage	-1.46	-1.43	-1.27	-1.90	-1.91	-1.70	-1.40	-1.08	-0.87
	[2.69]	[2.70]	[2.73]	[2.63]	[2.65]	[2.67]	[2.63]	[2.63]	[2.67]
Acq_TobinsQ	0.94*	0.93*	0.94*	0.92*	0.90*	0.89*	0.95*	0.99*	0.97*
	[0.53]	[0.53]	[0.54]	[0.52]	[0.52]	[0.53]	[0.52]	[0.51]	[0.52]
Acq_ROA	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02	-0.03	-0.02	-0.02
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.51**	-0.51**	-0.52**	-0.53**	-0.53**	-0.52**	-0.52**	-0.53**
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.24]
Tar_size	0.50	0.50	0.43	0.65	0.63	0.63	0.39	0.41	0.33
	[0.55]	[0.56]	[0.57]	[0.55]	[0.56]	[0.57]	[0.57]	[0.56]	[0.58]
Tar_leverage	-3.66	-3.63	-3.75	-3.98*	-3.96*	-3.92*	-3.56	-3.30	-3.38
	[2.29]	[2.31]	[2.30]	[2.30]	[2.31]	[2.31]	[2.27]	[2.29]	[2.28]
Tar_TobinsQ	-0.22	-0.21	-0.27	-0.21	-0.21	-0.21	-0.24	-0.24	-0.27
	[0.30]	[0.30]	[0.31]	[0.29]	[0.30]	[0.30]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05*	0.05	0.06*	0.06*	0.05*	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.18	0.18	0.16	0.17	0.17	0.16	0.17	0.14	0.14
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.51***	-1.51***	-1.45**	-1.44**	-1.42**	-1.41**	-1.48**	-1.51***	-1.41**
	[0.58]	[0.58]	[0.59]	[0.57]	[0.58]	[0.58]	[0.57]	[0.56]	[0.57]
Rel_Deal_value	0.70	0.70	0.69	0.67	0.66	0.66	0.66	0.71	0.70
	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.48]	[0.48]
dCash	0.79	0.80	0.87	0.82	0.83	0.86	0.85	0.96	1.01
	[0.88]	[0.88]	[0.88]	[0.89]	[0.89]	[0.89]	[0.88]	[0.88]	[0.88]
dCross_border	-0.19	-0.18	-0.44	-0.08	-0.06	-0.33	-0.18	-0.10	-0.31
	[0.91]	[0.91]	[1.18]	[0.92]	[0.92]	[1.18]	[0.91]	[0.92]	[1.17]
dIndustry_related	1.20	1.22	1.28	1.23	1.23	1.25	1.23	1.26	1.34
	[1.01]	[1.03]	[1.03]	[1.00]	[1.00]	[1.01]	[1.01]	[1.02]	[1.02]
Constant	-6.54	-6.44	-5.78	-7.92	-7.55	-7.44	-6.98	-6.69	-5.83
	[7.32]	[7.43]	[7.43]	[7.27]	[7.32]	[7.33]	[7.24]	[7.39]	[7.50]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.067	0.064	0.078	0.074	0.068	0.073	0.078	0.078
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with as main independent variable a high-ESG dummy (equal to 1 if overall ESG performance is above the median) and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table I.2: Effect of environmental performance on CAR [-1,1] – High-E dummy

	Acquirer E			Target E			Relative E		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.30	0.75	1.23	-0.01	-0.13	0.13	0.62	0.25	0.36
	[1.00]	[1.09]	[1.16]	[0.99]	[1.07]	[1.19]	[0.90]	[0.97]	[1.06]
dCovid		3.23	2.70		1.68	1.43		1.26	2.17
		[3.12]	[3.29]		[2.74]	[2.90]		[2.52]	[2.62]
ESGxdCovid		-1.71	-1.17		0.46	0.40		1.47	0.41
		[2.00]	[2.15]		[1.86]	[2.02]		[1.91]	[2.06]
Cul_dis			0.35			0.27			0.15
			[0.24]			[0.20]			[0.14]
ESGxCul_dis			-0.33			-0.23			-0.10
			[0.24]			[0.21]			[0.21]
Cul_disxdCovid			-0.12			-0.31			-0.62**
			[0.44]			[0.44]			[0.25]
ESGxCul_disxdCovid			-0.23			0.09			0.74*
			[0.48]			[0.50]			[0.42]
Acq_size	0.68	0.66	0.63	0.73*	0.74*	0.69*	0.82**	0.81**	0.73*
	[0.42]	[0.43]	[0.43]	[0.38]	[0.39]	[0.39]	[0.41]	[0.41]	[0.41]
Acq_leverage	-1.40	-1.28	-0.84	-1.47	-1.52	-1.06	-1.42	-1.23	-0.96
	[2.69]	[2.70]	[2.75]	[2.69]	[2.71]	[2.75]	[2.64]	[2.66]	[2.70]
Acq_TobinsQ	0.93*	0.94*	0.93*	0.94*	0.94*	0.92*	0.94*	0.95*	0.90*
	[0.53]	[0.52]	[0.53]	[0.52]	[0.53]	[0.53]	[0.52]	[0.52]	[0.53]
Acq_ROA	-0.03	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02
	[0.05]	[0.06]	[0.06]	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.52**	-0.49**	-0.51**	-0.51**	-0.50**	-0.52**	-0.52**	-0.54**
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.51	0.50	0.46	0.50	0.49	0.52	0.40	0.40	0.38
	[0.55]	[0.55]	[0.56]	[0.57]	[0.57]	[0.57]	[0.56]	[0.56]	[0.58]
Tar_leverage	-3.62	-3.56	-3.85*	-3.67	-3.68	-3.77	-3.62	-3.66	-3.77*
	[2.27]	[2.31]	[2.32]	[2.30]	[2.32]	[2.31]	[2.27]	[2.27]	[2.27]
Tar_TobinsQ	-0.21	-0.20	-0.23	-0.22	-0.23	-0.22	-0.24	-0.26	-0.25
	[0.30]	[0.29]	[0.30]	[0.30]	[0.30]	[0.31]	[0.30]	[0.30]	[0.31]
Tar_ROA	0.05*	0.05	0.05*	0.05*	0.05*	0.05*	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.18	0.18	0.17	0.18	0.17	0.17	0.18	0.17	0.16
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.52***	-1.51***	-1.48**	-1.50***	-1.50**	-1.50**	-1.50***	-1.51***	-1.42**
	[0.57]	[0.58]	[0.58]	[0.58]	[0.58]	[0.58]	[0.57]	[0.57]	[0.58]
Rel_Deal_value	0.71	0.74	0.73	0.69	0.69	0.67	0.66	0.67	0.65
	[0.47]	[0.47]	[0.48]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]
dCash	0.81	0.84	0.93	0.79	0.80	0.88	0.80	0.81	0.82
	[0.89]	[0.89]	[0.88]	[0.90]	[0.90]	[0.90]	[0.89]	[0.89]	[0.89]
dCross_border	-0.23	-0.17	-0.55	-0.19	-0.18	-0.53	-0.20	-0.22	-0.34
	[0.93]	[0.94]	[1.18]	[0.91]	[0.92]	[1.17]	[0.91]	[0.92]	[1.18]
dIndustry_related	1.20	1.21	1.17	1.20	1.22	1.28	1.24	1.27	1.32
	[1.01]	[1.02]	[1.01]	[1.02]	[1.01]	[1.02]	[1.01]	[1.01]	[1.02]
Constant	-6.05	-5.95	-5.52	-6.60	-6.46	-6.57	-7.00	-6.54	-5.76
	[7.43]	[7.57]	[7.49]	[7.41]	[7.50]	[7.47]	[7.28]	[7.46]	[7.59]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.069	0.071	0.072	0.067	0.063	0.073	0.070	0.070
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with as main independent variable a high-E dummy (equal to 1 if environmental performance is above the median) and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table I.3: Effect of social performance on CAR [-1,1] – High-S dummy

	Acquirer S			Target S			Relative S		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	-0.81	-0.78	-0.62	-2.61***	-2.27**	-2.38**	-0.73	-0.84	-0.83
	[0.79]	[0.86]	[0.98]	[0.82]	[0.89]	[1.01]	[0.79]	[0.92]	[1.05]
dCovid		1.37	1.38		3.99	3.85		2.10	2.58
		[2.98]	[3.18]		[2.72]	[2.91]		[2.65]	[2.83]
ESGxdCovid		-0.07	0.32		-1.53	-1.26		0.38	-0.04
		[1.95]	[2.13]		[1.96]	[2.17]		[1.94]	[2.15]
Cul_dis			0.19			0.11			0.10
			[0.20]			[0.20]			[0.16]
ESGxCul_dis			-0.11			0.03			0.02
			[0.20]			[0.21]			[0.19]
Cul_disxdCovid			-0.18			-0.21			-0.49*
			[0.34]			[0.39]			[0.26]
ESGxCul_disxdCovid			-0.30			-0.10			0.33
			[0.40]			[0.47]			[0.39]
Acq_size	0.80**	0.80**	0.77**	0.79**	0.76**	0.74*	0.71*	0.70*	0.69*
	[0.39]	[0.39]	[0.39]	[0.38]	[0.38]	[0.38]	[0.38]	[0.39]	[0.40]
Acq_leverage	-1.59	-1.60	-1.35	-2.13	-2.20	-1.93	-1.46	-1.45	-1.32
	[2.63]	[2.64]	[2.67]	[2.56]	[2.58]	[2.60]	[2.62]	[2.63]	[2.67]
Acq_TobinsQ	0.95*	0.94*	0.93*	0.91*	0.91*	0.92*	0.92*	0.90*	0.91*
	[0.52]	[0.53]	[0.54]	[0.52]	[0.51]	[0.52]	[0.53]	[0.54]	[0.54]
Acq_ROA	-0.03	-0.03	-0.03	-0.02	-0.01	-0.01	-0.03	-0.03	-0.03
	[0.05]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.06]	[0.06]
Acq_liquidity	-0.53**	-0.53**	-0.52**	-0.51**	-0.54**	-0.55**	-0.50**	-0.49**	-0.49**
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
Tar_size	0.45	0.44	0.40	0.75	0.72	0.72	0.58	0.58	0.52
	[0.56]	[0.56]	[0.57]	[0.54]	[0.54]	[0.55]	[0.55]	[0.56]	[0.56]
Tar_leverage	-3.69	-3.68	-3.72	-3.66	-3.59	-3.60	-3.70	-3.68	-3.59
	[2.26]	[2.27]	[2.27]	[2.23]	[2.22]	[2.24]	[2.26]	[2.27]	[2.28]
Tar_TobinsQ	-0.25	-0.25	-0.28	-0.09	-0.07	-0.09	-0.19	-0.19	-0.22
	[0.30]	[0.30]	[0.31]	[0.28]	[0.28]	[0.29]	[0.30]	[0.30]	[0.31]
Tar_ROA	0.05*	0.05*	0.05	0.05*	0.05	0.05	0.05*	0.05*	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.17	0.17	0.15	0.19	0.19	0.19	0.17	0.17	0.16
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.48**	-1.47**	-1.43**	-1.53***	-1.49***	-1.48**	-1.54***	-1.52***	-1.48**
	[0.58]	[0.58]	[0.59]	[0.56]	[0.57]	[0.57]	[0.57]	[0.58]	[0.58]
Rel_Deal_value	0.68	0.68	0.65	0.80*	0.80*	0.79*	0.71	0.70	0.69
	[0.47]	[0.47]	[0.47]	[0.46]	[0.46]	[0.46]	[0.46]	[0.47]	[0.47]
dCash	0.75	0.76	0.80	0.97	1.01	1.00	0.80	0.83	0.83
	[0.89]	[0.89]	[0.90]	[0.88]	[0.88]	[0.89]	[0.89]	[0.88]	[0.88]
dCross_border	-0.22	-0.22	-0.53	-0.14	-0.12	-0.45	-0.17	-0.16	-0.35
	[0.91]	[0.91]	[1.17]	[0.90]	[0.90]	[1.16]	[0.91]	[0.91]	[1.18]
dIndustry_related	1.21	1.21	1.28	1.22	1.28	1.31	1.18	1.19	1.22
	[1.01]	[1.01]	[1.02]	[0.97]	[0.98]	[0.98]	[1.00]	[1.01]	[1.01]
Constant	-6.75	-6.64	-6.08	-10.31	-9.97	-9.53	-6.98	-6.65	-6.21
	[7.25]	[7.34]	[7.37]	[7.24]	[7.27]	[7.31]	[7.24]	[7.49]	[7.59]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.074	0.069	0.066	0.099	0.096	0.090	0.074	0.069	0.064
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with as main independent variable a high-S dummy (equal to 1 if social performance is above the median) and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table I.4: Effect of governance performance on CAR [-1,1] – High-G dummy

	Acquirer G			Target G			Relative G		
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG	0.37	0.95	1.05	0.56	0.34	0.09	0.78	0.05	0.05
	[0.94]	[1.02]	[1.16]	[0.87]	[0.97]	[1.07]	[0.84]	[0.92]	[1.02]
dCovid		3.62	3.55		1.40	1.02		0.62	1.41
		[3.07]	[3.31]		[2.75]	[2.95]		[2.48]	[2.66]
ESGxdCovid		-2.22	-1.37		0.81	1.41		2.92	2.31
		[1.98]	[2.19]		[1.86]	[2.05]		[1.87]	[2.00]
Cul_dis			0.15			0.05			0.11
			[0.18]			[0.14]			[0.14]
ESGxCul_dis			-0.08			0.13			-0.01
			[0.20]			[0.18]			[0.19]
Cul_disxdCovid			-0.03			-0.04			-0.49*
			[0.31]			[0.36]			[0.25]
ESGxCul_disxdCovid			-0.58			-0.37			0.41
			[0.41]			[0.45]			[0.41]
Acq_size	0.70*	0.64	0.61	0.75*	0.75*	0.74*	0.83**	0.82**	0.81**
	[0.40]	[0.40]	[0.40]	[0.38]	[0.39]	[0.39]	[0.39]	[0.39]	[0.40]
Acq_leverage	-1.39	-1.15	-1.04	-1.34	-1.48	-1.24	-1.45	-1.40	-1.25
	[2.67]	[2.69]	[2.73]	[2.65]	[2.66]	[2.70]	[2.62]	[2.62]	[2.67]
Acq_TobinsQ	0.93*	0.94*	0.94*	0.93*	0.92*	0.97*	0.97*	0.99*	0.98*
	[0.53]	[0.52]	[0.53]	[0.52]	[0.52]	[0.53]	[0.53]	[0.51]	[0.52]
Acq_ROA	-0.03	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02
	[0.05]	[0.05]	[0.06]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Acq_liquidity	-0.51**	-0.54**	-0.55**	-0.50**	-0.49*	-0.50**	-0.51**	-0.53**	-0.53**
	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.24]	[0.25]	[0.25]
Tar_size	0.52	0.55	0.48	0.45	0.45	0.43	0.40	0.45	0.38
	[0.55]	[0.55]	[0.56]	[0.56]	[0.57]	[0.57]	[0.57]	[0.56]	[0.58]
Tar_leverage	-3.60	-3.57	-3.66	-3.51	-3.55	-3.64	-3.49	-3.35	-3.28
	[2.30]	[2.31]	[2.31]	[2.29]	[2.31]	[2.32]	[2.28]	[2.29]	[2.30]
Tar_TobinsQ	-0.21	-0.17	-0.21	-0.22	-0.22	-0.25	-0.25	-0.18	-0.21
	[0.30]	[0.29]	[0.30]	[0.30]	[0.30]	[0.30]	[0.30]	[0.29]	[0.30]
Tar_ROA	0.05*	0.05	0.05	0.05*	0.05	0.05	0.05*	0.05	0.05
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Tar_liquidity	0.18	0.18	0.16	0.18	0.17	0.15	0.17	0.16	0.15
	[0.19]	[0.18]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
Deal_value	-1.54***	-1.57***	-1.50**	-1.55***	-1.54***	-1.53***	-1.49***	-1.55***	-1.49***
	[0.58]	[0.58]	[0.59]	[0.58]	[0.58]	[0.58]	[0.57]	[0.57]	[0.57]
Rel_Deal_value	0.72	0.75	0.76	0.70	0.70	0.70	0.67	0.71	0.71
	[0.47]	[0.48]	[0.48]	[0.47]	[0.47]	[0.47]	[0.47]	[0.47]	[0.48]
dCash	0.74	0.79	0.86	0.75	0.77	0.77	0.86	0.89	0.89
	[0.88]	[0.88]	[0.88]	[0.89]	[0.90]	[0.89]	[0.88]	[0.88]	[0.89]
dCross_border	-0.20	-0.19	-0.42	-0.21	-0.21	-0.55	-0.20	-0.14	-0.31
	[0.91]	[0.91]	[1.17]	[0.91]	[0.91]	[1.17]	[0.91]	[0.91]	[1.18]
dIndustry_related	1.17	1.24	1.35	1.19	1.20	1.27	1.29	1.35	1.39
	[1.01]	[1.03]	[1.03]	[1.01]	[1.01]	[1.01]	[1.01]	[1.02]	[1.02]
Constant	-6.22	-6.02	-5.19	-6.23	-6.06	-5.66	-7.48	-7.29	-6.56
	[7.27]	[7.40]	[7.42]	[7.29]	[7.39]	[7.41]	[7.21]	[7.31]	[7.40]
Observations	416	416	416	416	416	416	416	416	416
Adjusted R-squared	0.072	0.071	0.071	0.073	0.069	0.063	0.074	0.076	0.071
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table displays the estimation results of the regression models with as main independent variable a high-G dummy (equal to 1 if governance performance is above the median) and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. For each model a global sample of 416 M&A transactions between 2012 and 2022 is used. Three different model specifications are estimated: the baseline model including ESG performance (columns (1), (4), and (7)), the difference-in-differences model with COVID-19 dummy (columns (2), (5), and (8)), and the triple-differences model with cultural distance (columns (3), (6), and (9)). All continuous variables are winsorized at 1% and 99%. Table 3 lists the definitions of all control variables. Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Appendix J Regression results subsample analysis

Table J.1: Effect of acquirer ESG performance on CAR [-1,1] based on subsamples

	Domestic	Cross-border	Non-cash	Cash	Low rel. deal value	High rel. deal value
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)
ESG	-0.02	0.00	-0.03	0.05	0.04	-0.04
	[0.03]	[0.05]	[0.03]	[0.03]	[0.03]	[0.04]
dCovid	2.92	8.96	2.79	14.02***	10.02***	4.25
	[3.36]	[5.41]	[3.60]	[3.46]	[2.64]	[4.84]
ESGxdCovid	0.01	-0.18**	-0.01	-0.20***	-0.13***	-0.07
	[0.06]	[0.07]	[0.06]	[0.05]	[0.04]	[0.08]
Acq_size	0.93*	0.88	1.36**	0.22	0.37	1.83
	[0.49]	[0.62]	[0.53]	[0.48]	[0.69]	[1.35]
Acq_leverage	1.10	-5.53	0.59	-3.59	0.08	-2.13
	[3.09]	[5.74]	[3.39]	[3.89]	[3.14]	[4.46]
Acq_TobinsQ	0.56	1.54*	1.07	0.65	0.56	1.66
	[0.60]	[0.91]	[0.75]	[0.65]	[0.62]	[1.28]
Acq_ROA	-0.08	0.10	-0.11*	0.21***	-0.01	-0.07
	[0.07]	[0.09]	[0.07]	[0.08]	[0.07]	[0.07]
Acq_liquidity	-0.36	-1.24**	-0.48	-1.02**	-0.34	-0.58*
	[0.30]	[0.57]	[0.32]	[0.48]	[0.38]	[0.34]
Tar_size	0.45	-0.73	0.09	0.09	-0.25	0.38
	[0.64]	[1.19]	[0.69]	[0.79]	[0.61]	[1.11]
Tar_leverage	-4.91*	-3.79	-5.40*	-4.46	1.71	-8.24**
	[2.68]	[4.25]	[2.99]	[2.95]	[2.56]	[3.75]
Tar_TobinsQ	0.12	-1.16*	-0.23	-0.23	0.07	-0.54
	[0.36]	[0.62]	[0.49]	[0.32]	[0.28]	[0.72]
Tar_ROA	0.07*	0.03	0.14***	-0.03	0.04	0.13**
	[0.04]	[0.06]	[0.04]	[0.03]	[0.03]	[0.06]
Tar_liquidity	-0.01	0.03	-0.10	0.18	0.33**	-0.14
	[0.25]	[0.27]	[0.27]	[0.18]	[0.16]	[0.35]
Deal_value	-1.08	-0.13	-1.08	-1.03	-0.69	-1.61
	[0.67]	[1.29]	[0.71]	[0.79]	[0.78]	[1.52]
Rel_Deal_value	0.95*	0.69	0.76	2.72	3.82	0.99
	[0.51]	[1.30]	[0.52]	[2.07]	[7.34]	[0.65]
dCash	2.24*	-0.73			1.29	0.51
	[1.17]	[1.56]			[0.87]	[2.25]
dIndustry_related	1.27	0.92	1.61	0.91	0.82	1.64
	[1.13]	[1.85]	[1.37]	[1.11]	[1.03]	[1.69]
dCross_border			0.61	-1.93*	-0.30	-0.45
			[1.46]	[0.99]	[0.79]	[1.69]
Constant	-14.67*	-0.41	-14.96*	0.31	-4.27	-20.02
	[7.73]	[15.05]	[8.50]	[8.06]	[9.61]	[13.32]
Observations	281	135	274	142	208	208
Adjusted R-squared	0.052	0.033	0.054	0.152	0.078	0.023
Year F.E.	No	No	No	No	No	No
Industry F.E.	No	No	No	No	No	No

Note. This table displays estimation results of the regression model specified in equation (9) for various subsamples of the data, with the acquirer's overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. The partitioning in columns (1) and (2) is based on *dCross_border*, in columns (3) and (4) on *dCash*, and in columns (5) and (6) on *Rel_Deal_value* (below and above the median, respectively). Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table J.2: Effect of target ESG performance on CAR [-1,1] based on subsamples

	Domestic	Cross-border	Non-cash	Cash	Low rel. deal value	High rel. deal value
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)
ESG	-0.05	-0.04	-0.04	-0.00	-0.01	-0.07
	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]
dCovid	2.73	0.92	2.42	3.88	1.14	5.40
	[2.00]	[3.51]	[2.27]	[2.63]	[1.97]	[3.64]
ESGxdCovid	0.03	-0.05	-0.01	-0.07	0.04	-0.10
	[0.05]	[0.07]	[0.05]	[0.05]	[0.05]	[0.07]
Acq_size	0.80*	0.41	1.09**	0.23	0.47	1.51
	[0.46]	[0.65]	[0.50]	[0.50]	[0.70]	[1.34]
Acq_leverage	1.06	-6.41	0.54	-5.22	0.21	-2.51
	[3.06]	[5.96]	[3.42]	[4.26]	[3.38]	[4.49]
Acq_TobinsQ	0.52	1.24	1.00	0.43	0.66	1.35
	[0.59]	[0.94]	[0.77]	[0.67]	[0.68]	[1.30]
Acq_ROA	-0.08	0.08	-0.12*	0.17**	-0.06	-0.05
	[0.06]	[0.10]	[0.06]	[0.08]	[0.08]	[0.07]
Acq_liquidity	-0.35	-1.02*	-0.45	-0.89*	-0.28	-0.55
	[0.28]	[0.55]	[0.32]	[0.53]	[0.38]	[0.35]
Tar_size	0.66	0.00	0.44	-0.05	-0.01	1.03
	[0.63]	[1.22]	[0.71]	[0.84]	[0.59]	[1.17]
Tar_leverage	-5.37*	-4.57	-5.63*	-4.09	1.02	-9.29**
	[2.81]	[4.52]	[3.04]	[3.07]	[2.44]	[3.83]
Tar_TobinsQ	0.13	-0.99*	-0.10	-0.46	0.06	-0.17
	[0.35]	[0.58]	[0.49]	[0.32]	[0.31]	[0.75]
Tar_ROA	0.07*	0.04	0.13***	-0.03	0.05	0.12*
	[0.04]	[0.06]	[0.04]	[0.04]	[0.03]	[0.06]
Tar_liquidity	-0.03	0.09	-0.12	0.17	0.34**	-0.14
	[0.26]	[0.28]	[0.28]	[0.20]	[0.17]	[0.37]
Deal_value	-0.97	-0.22	-1.06	-0.64	-0.79	-1.62
	[0.66]	[1.29]	[0.72]	[0.84]	[0.82]	[1.53]
Rel_Deal_value	1.09**	0.33	0.90*	1.45	4.00	1.24*
	[0.52]	[1.27]	[0.52]	[2.34]	[7.49]	[0.67]
dCash	2.21*	-0.51			1.28	0.61
	[1.13]	[1.66]			[0.88]	[2.26]
dIndustry_related	1.21	0.31	1.51	0.69	0.56	1.56
	[1.10]	[1.93]	[1.32]	[1.12]	[1.00]	[1.62]
dCross_border			0.55	-1.64	0.16	-0.43
			[1.43]	[1.07]	[0.87]	[1.64]
Constant	-15.94**	-0.44	-16.14*	3.90	-5.57	-24.08*
	[7.88]	[15.93]	[8.74]	[9.76]	[10.18]	[13.59]
Observations	281	135	274	142	208	208
Adjusted R-squared	0.050	0.014	0.027	0.050	0.019	0.026
Year Fixed Effects	No	No	No	No	No	No
Industry Fixed Effects	No	No	No	No	No	No

Note. This table displays estimation results of the regression model specified in equation (9) for various subsamples of the data, with the target's overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. The partitioning in columns (1) and (2) is based on *dCross_border*, in columns (3) and (4) on *dCash*, and in columns (5) and (6) on *Rel_Deal_value* (below and above the median, respectively). Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table J.3: Effect of relative ESG performance on CAR [-1,1] based on subsamples

	Domestic	Cross-border	Non-cash	Cash	Low rel. deal value	High rel. deal value
CAR [-1,1]	(1)	(2)	(3)	(4)	(5)	(6)
ESG	-0.02	-0.03	-0.01	-0.04	-0.04	-0.02
	[0.02]	[0.04]	[0.03]	[0.02]	[0.02]	[0.03]
dCovid	3.36**	0.13	1.84	3.70**	5.87***	0.27
	[1.64]	[2.87]	[1.70]	[1.72]	[1.41]	[2.10]
ESGxdCovid	0.00	0.09	0.00	0.09***	0.13***	-0.03
	[0.06]	[0.06]	[0.07]	[0.03]	[0.04]	[0.10]
Acq_size	0.72	0.80	1.09**	0.26	0.52	1.57
	[0.45]	[0.69]	[0.52]	[0.45]	[0.66]	[1.38]
Acq_leverage	1.51	-6.52	0.96	-4.09	0.26	-2.38
	[3.01]	[5.81]	[3.35]	[4.11]	[3.10]	[4.35]
Acq_TobinsQ	0.52	1.45	1.03	0.48	0.65	1.47
	[0.60]	[0.95]	[0.77]	[0.64]	[0.61]	[1.35]
Acq_ROA	-0.08	0.09	-0.13**	0.18**	-0.03	-0.07
	[0.06]	[0.10]	[0.06]	[0.08]	[0.07]	[0.07]
Acq_liquidity	-0.33	-1.21**	-0.45	-0.85*	-0.32	-0.51
	[0.28]	[0.58]	[0.32]	[0.48]	[0.37]	[0.35]
Tar_size	0.58	-0.16	0.25	0.27	-0.01	0.56
	[0.64]	[1.29]	[0.73]	[0.87]	[0.55]	[1.15]
Tar_leverage	-4.83*	-2.83	-5.11*	-4.60	1.21	-7.98**
	[2.66]	[4.28]	[2.95]	[3.11]	[2.46]	[3.70]
Tar_TobinsQ	0.15	-0.81	-0.17	-0.25	0.16	-0.50
	[0.36]	[0.63]	[0.50]	[0.34]	[0.29]	[0.69]
Tar_ROA	0.07*	0.04	0.13***	-0.01	0.05	0.12*
	[0.04]	[0.06]	[0.04]	[0.03]	[0.03]	[0.06]
Tar_liquidity	-0.01	0.12	-0.11	0.20	0.33**	-0.17
	[0.25]	[0.27]	[0.27]	[0.19]	[0.16]	[0.36]
Deal_value	-1.15*	-0.90	-1.21*	-1.12	-0.98	-1.89
	[0.66]	[1.38]	[0.72]	[0.87]	[0.74]	[1.58]
Rel_Deal_value	1.10**	1.03	0.91*	2.47	5.31	1.33*
	[0.53]	[1.35]	[0.54]	[2.30]	[7.33]	[0.69]
dCash	2.09*	-0.88			1.30	0.10
	[1.16]	[1.67]			[0.84]	[2.31]
dIndustry_related	1.20	0.49	1.52	0.44	0.70	1.40
	[1.12]	[1.91]	[1.35]	[1.11]	[0.98]	[1.66]
dCross_border			0.36	-1.67	0.05	-0.82
			[1.42]	[1.05]	[0.80]	[1.66]
Constant	-14.25*	-2.30	-13.90	0.57	-7.07	-18.18
	[7.72]	[16.58]	[8.58]	[9.33]	[9.54]	[13.14]
Observations	281	135	274	142	208	208
Adjusted R-squared	0.042	0.018	0.020	0.070	0.072	0.016
Year Fixed Effects	No	No	No	No	No	No
Industry Fixed Effects	No	No	No	No	No	No

Note. This table displays estimation results of the regression model specified in equation (9) for various subsamples of the data, with the target's relative overall ESG performance as main independent variable and the acquirer cumulative abnormal return of the three-day event window (CAR [-1,1]) as dependent variable. The partitioning in columns (1) and (2) is based on *dCross_border*, in columns (3) and (4) on *dCash*, and in columns (5) and (6) on *Rel_Deal_value* (below and above the median, respectively). Robust standard errors are presented in brackets. * , **, and *** denote significance at the 10%, 5%, and 1% level, respectively.